

VOL. 77

NO. 7

textile bulletin

JULY • 1951

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CHECK STRAPS Reinforced "Verybest"

Provides 12½% more wearing surface, conformed to Picker Stick angle.



"Verybest"
Conventional
Custom cut and shaped, uniform in width, thickness, and performance.



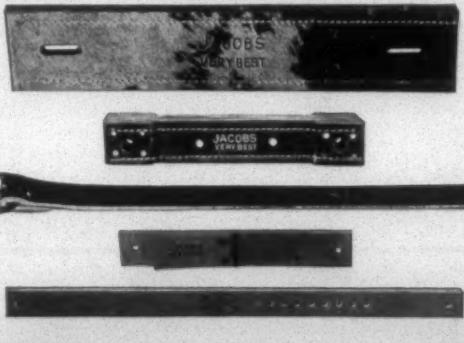
HAIRY SPINDLE BUMPER STRAPS

{ STRAP DEPARTMENT IN CHARLOTTE—Strapping in all styles and sizes now expertly made in Charlotte as well as Danielson, insuring fast service and cheaper delivery to Southern mills. Immediate delivery from closest point. }

JACOBS

FLAT STRAPS Round Harness Straps

Hairy and Oak Leather
Rubberized Fabric
Interwoven Fabric



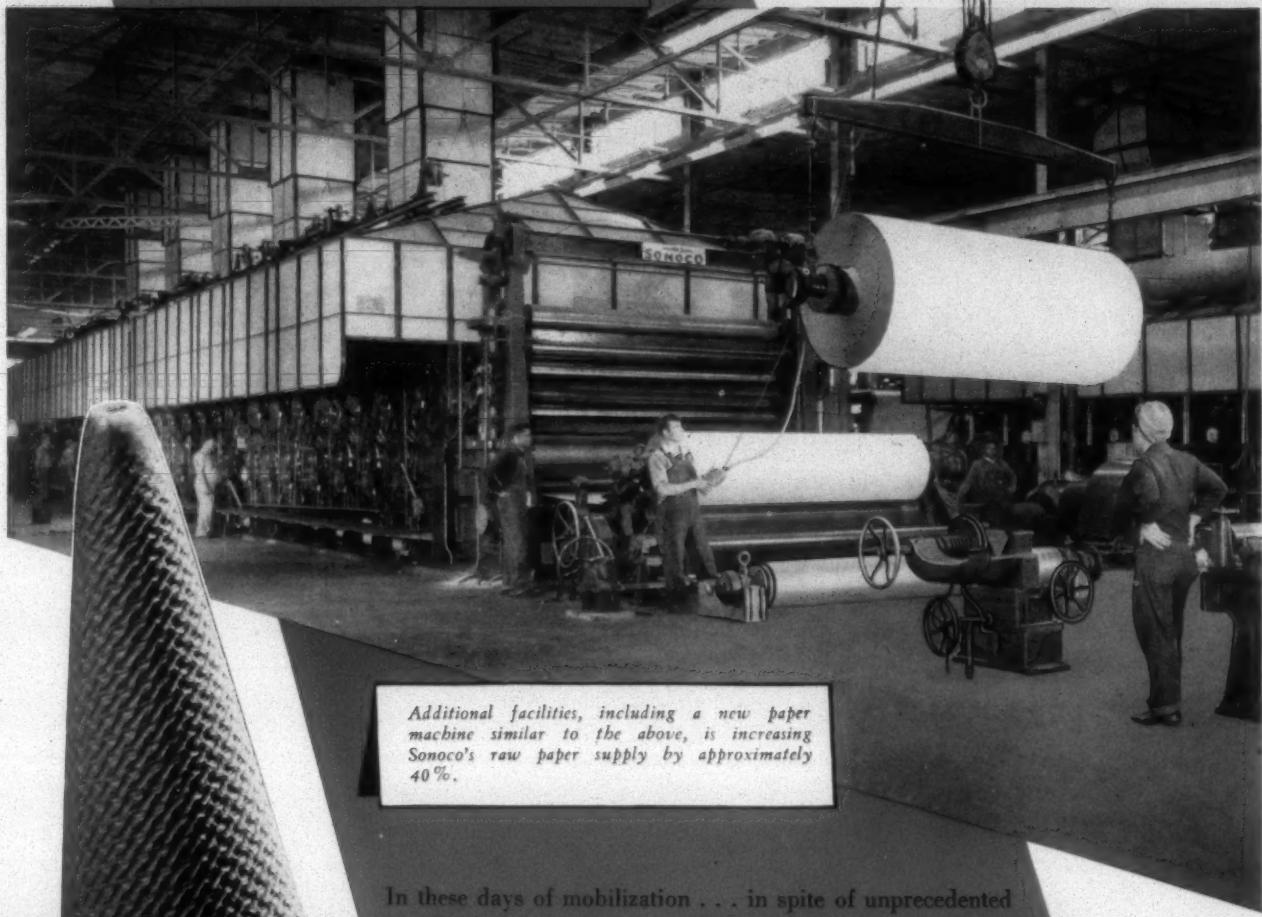
SOUTHERN
Division
Charlotte, N. C.

The Bullard Clark Company
E. H. JACOBS

NORTHERN
Division
Danielson, Conn.

SERVING THE TEXTILE INDUSTRY SINCE 1899

SONOCO breaks another bottleneck



Additional facilities, including a new paper machine similar to the above, is increasing Sonoco's raw paper supply by approximately 40%.

In these days of mobilization . . . in spite of unprecedented production demands . . . SONOCO continues to serve the Textile Industry as a dependable source of supply for paper carriers.

Dependability of service has been largely responsible for SONOCO'S position of leadership the past fifty years; and, today, SONOCO is engaged in a further program of expansion that will insure a continuance of that service.

Paper production is being increased and manufacturing methods improved so that the Textile Industry can continue to depend on SONOCO for its paper carrier requirements.

Sonoco Products Company

BRANTFORD
ONT.

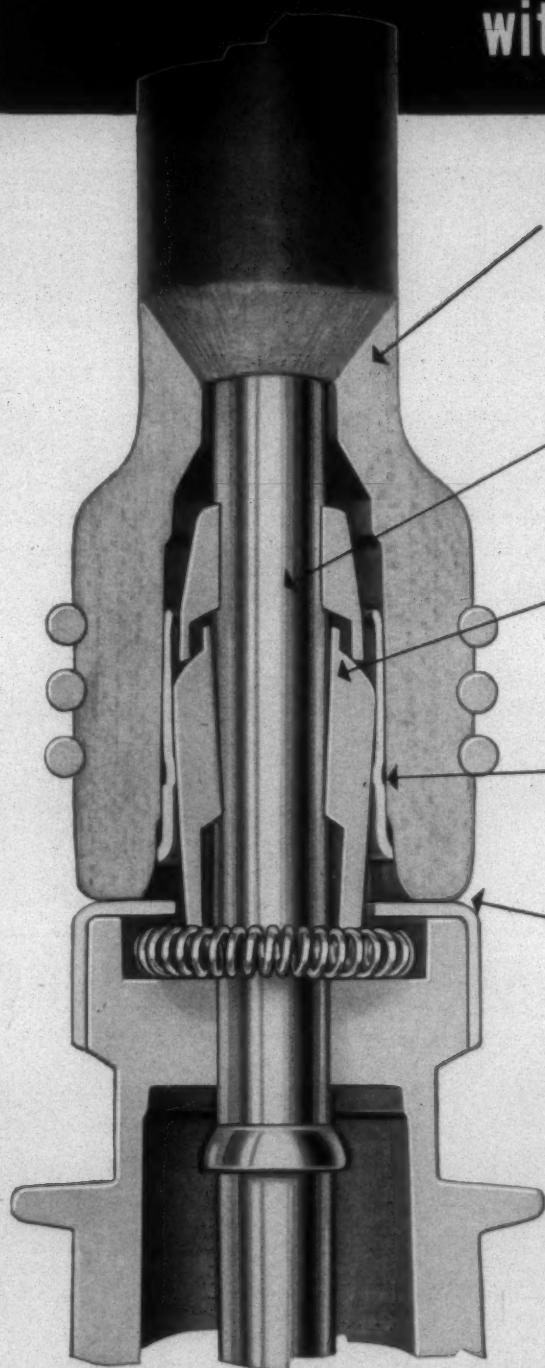
HARTSVILLE
S. C.

MYSTIC
CONN.

DEPENDABLE SOURCE OF SUPPLY



Modern CLUTCH SPINDLES and BOBBINS with STIMPSON RIB BUSHING



Less Wear on Bobbin
and Spindle

Prevents Bobbin
“Riding Up”



Easier Doffing

● Use a modern Draper clutch spindle to reduce your costs and step-up your quality production.

The Draper clutch spindle, used in conjunction with bobbins having the Stimpson Rib Bushing, will give you completely filled bobbins with uniform packages and properly placed feeler bunches. Investigate the Draper clutch spindle and see how you can cut your spinning and weaving costs.

DRAPER



ATLANTA, GA.

HOPEDALE, MASS.

SPARTANBURG, S. C.

TEXTILE AIR CONDITIONING



A Bahnsen Humiduct air conditioning system with *refrigeration* maintains year-round humidity and temperature control in this spun rayon twisting room; but—whether processing cotton, rayon, nylon or wool, Bahnsen engineers will study *your* particular requirements and recommend the Bahnsen system best suited to *your* needs . . .

HUMIDDUCT UNIT SYSTEM

CENTRAL STATION AIR WASHER SYSTEM

CENTRISPRAY AIR WASHER SYSTEM

AIR VITALIZER SYSTEM

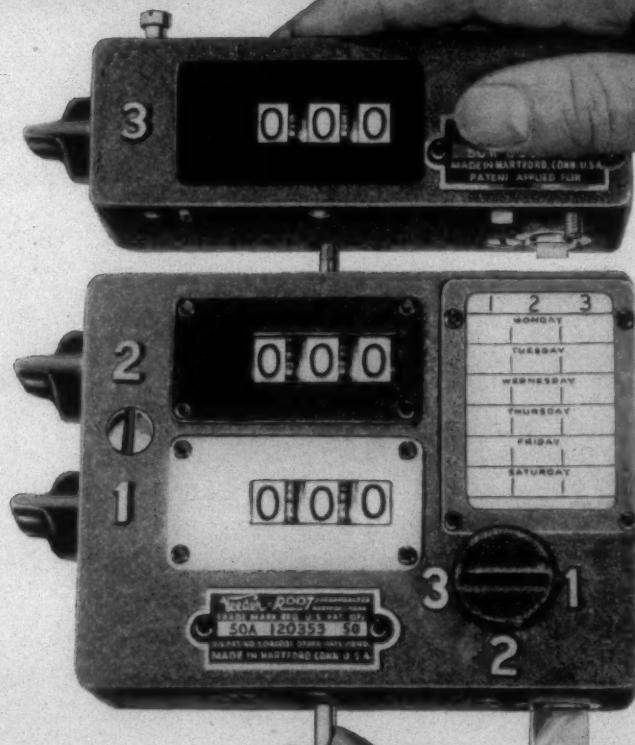
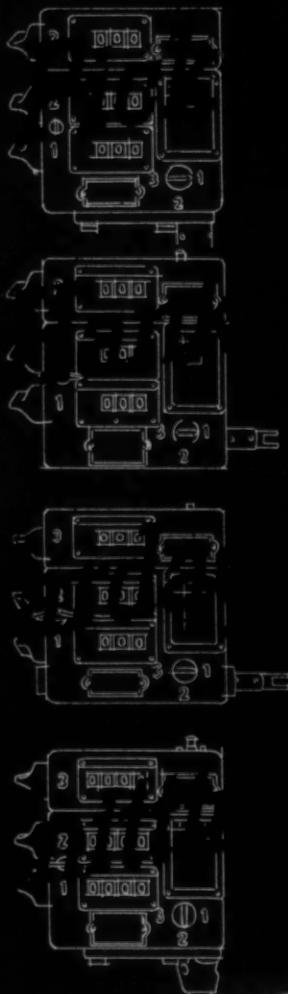
Bahnsen Engineering is based on 40 years experience in textile air conditioning and Bahnsen equipment assures maximum efficiency at minimum cost.

Bahnsen  *Company*
ENGINEERS AND MANUFACTURERS

WINSTON-SALEM, N. C.

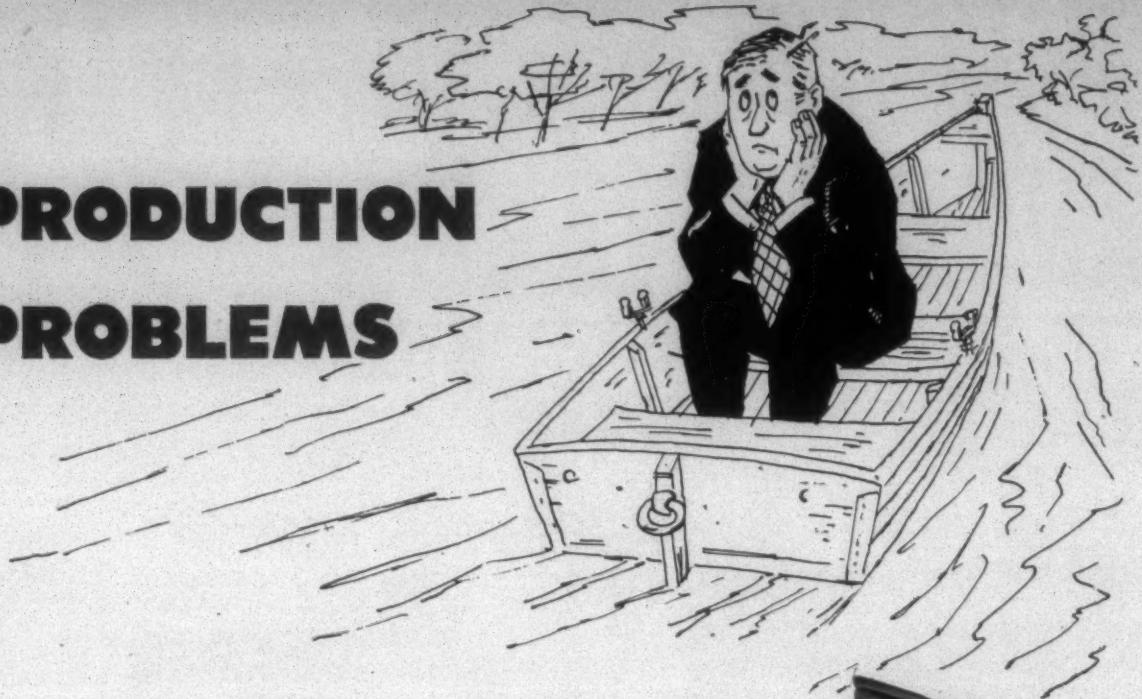
VIEEDER-ROOT

29



COUNTERS

PRODUCTION PROBLEMS



got you up a creek?

- The function of our Technical Sales Department is to help solve various production problems in the field. These men are constantly working with new products and techniques—perhaps this experience would be helpful in smoothing out production sore spots in your operation.

Our basic, continuing research in starch chemistry is unsurpassed . . . under the direction of the foremost research men in this field.

Make the most of these facilities . . . no obligation, of course.

For uniform quality products...for a reliable source of supply . . . depend on Corn Products Refining Company.

write to

CORN PRODUCTS REFINING CO.

17 Battery Place, New York 4, N. Y.



Globe and Eagle are registered trade-marks of Corn Products Refining Company, New York, N. Y.

COLORS

that won't fade out...



Always dye with an eye to the end use



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

TEXTILE BULLETIN • July, 1951

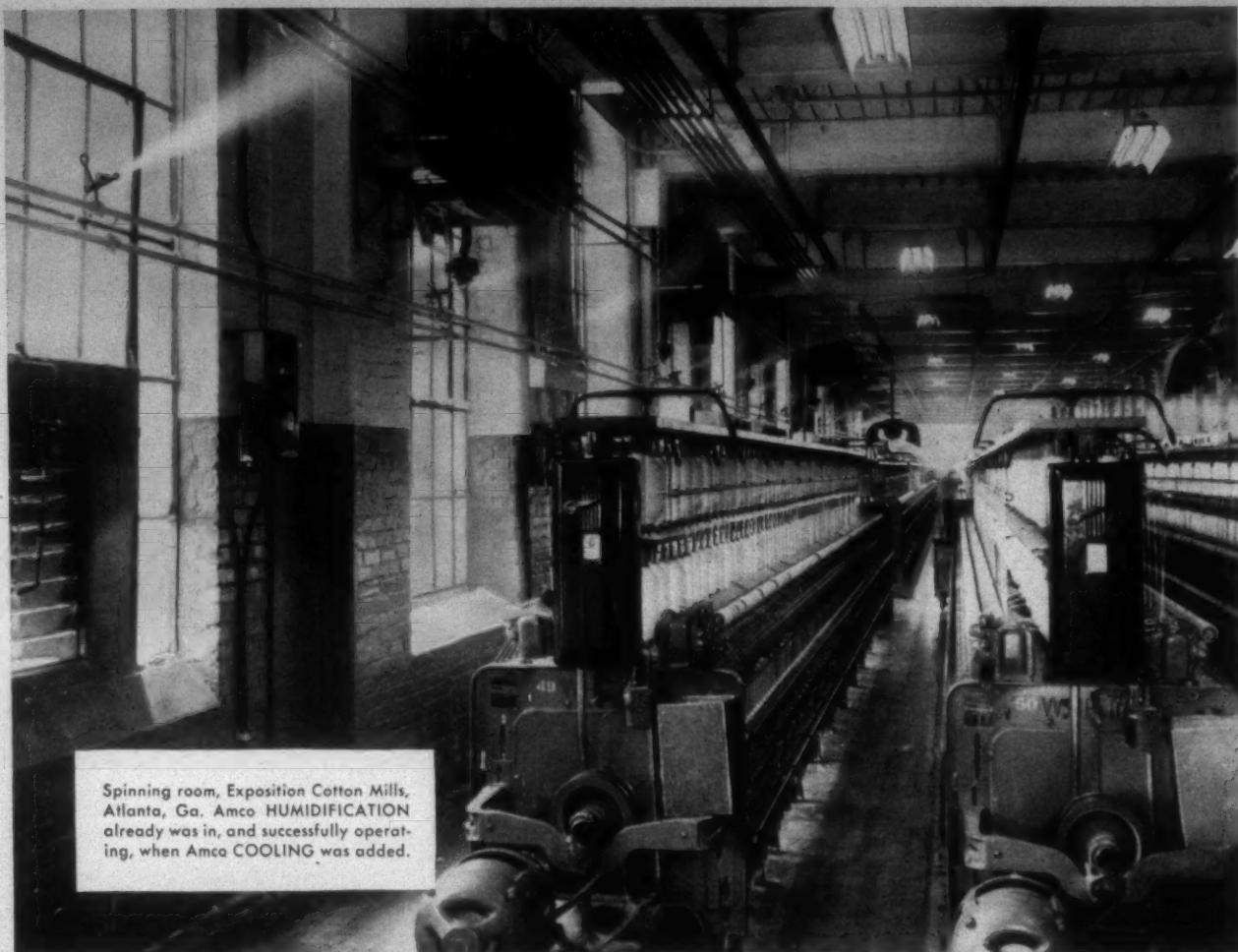
Du Pont Vat Colors are well known for all-around fastness to sun, laundering, perspiration or dry cleaning. And Du Pont vat dyes assure you deep penetration, uniformity and brilliance.

You can choose your colors from a wide selection—in Du Pont PONSOL* and LEUCOSOL* (anthraquinone-type dyes) and SULFANTHRENE* (indigoid and related dyes). Our Technical Staff will be glad to help you find the right dye—and the right method of application—for all of your fabrics.

E. I. du Pont de Nemours & Co. (Inc.),
Dyestuffs Division, Wilmington 98,
Delaware.

*REG. U. S. PAT. OFF.

*Du Pont
Dyestuffs*



Spinning room, Exposition Cotton Mills, Atlanta, Ga. Amco HUMIDIFICATION already was in, and successfully operating, when Amco COOLING was added.



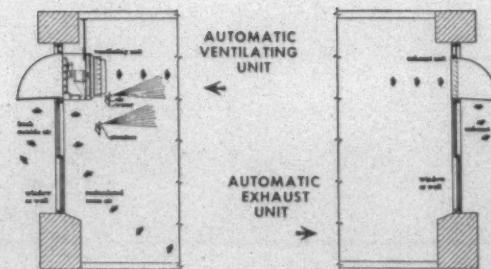
A YARN WORTH SPINNING

Here's a modern "see" story — with important advantages for you in better quality, increased output, reduced waste.

You can see for yourself the advantages of Amco humidification ... in correct regain, even yarn counts, reduced waste, improved output and quality, greater worker comfort and efficiency.

But do you know how easily you can add COOLING to humidification, with a ductless system? You discard nothing and make only a modest addition to your present humidification system. Add evaporative cooling room by room as you need it. Modify it any time it is convenient.

The cooling effect of evaporating twelve pounds of water per hour is equivalent to one ton of refrigeration. That's the measured result of evaporative cooling in one hour in a given area. For example, in cotton weaving at 80% relative humidity an Amco ductless evaporative cooling system can economically produce an indoor temperature approximately 7 degrees above the outside wet bulb temperature.



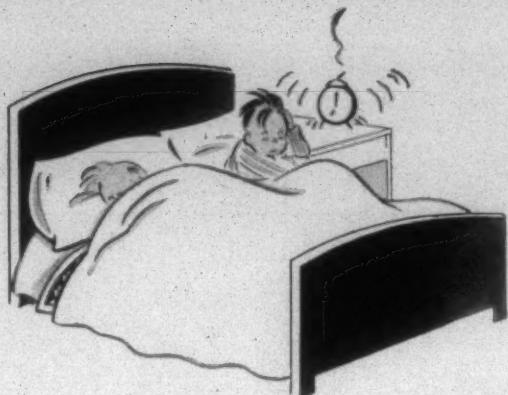
Ventilating units draw in a controlled amount of fresh air, additional atomizers provide extra evaporation for absorbing excess heat. Controlled vents exhaust spent air and heat. Automatic temperature controls cover winter and summer conditions. Atomizers are self-cleaning. Controls are extremely responsive.

Amco offers both ductless and duct systems of humidification and cooling. An Amco engineer will give you unbiased advice on the system best suited to your requirements.

AMCO

HUMIDIFICATION and COOLING

AMERICAN MOISTENING COMPANY, AFFILIATED WITH GRINNELL CO., INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE



Can't get 'em up on Monday?

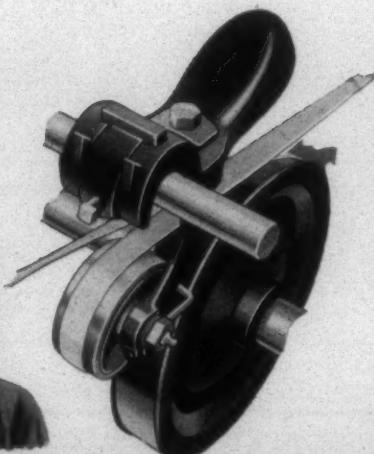
If you can't get frame production up after week-end shut downs, due to bands popping off, or waste from slack bands, or from sticky wooden-bearing tape tension pulleys,—do as scores of other mills have done, and

get
Meadows Modernizers



and you'll end Monday-morning band, sticky tape-pulley, and cylinder troubles *for keeps!*... Convert your frames to tape drive with Meadows individual drive pulley and ball-bearing tape tension pulleys, and be assured of even tension at *all times*—a more uniform speed and twist—fewer ends down. Can be easily and quickly installed on either band-driven or old-style tape driven frames.

"My frames are turning out **MORE** and **BETTER** yarn since I modernized with **MEADOWS**"



MEADOWS MANUFACTURING COMPANY • ATLANTA, GEORGIA

Representatives: JAMES P. COLEMAN, P.O. Box 1351, Greenville, South Carolina • WALTER S. COLEMAN, P.O. Box 722, Salisbury, North Carolina • MATTHEWS EQUIPMENT COMPANY, 93-A Broadway, Providence, Rhode Island • SAM HOGG, Atlanta, Georgia

Complete Blending, Opening, Cleaning and Picking Systems for Cotton Mills

Opening, Blending and Picking Systems for Synthetic Fibers

New, and Rebuilt, Single - Process Pickers

The Aldrich Synchronized Single Process Picking System has consistently produced more uniform card sliver than any other picking system.

Parts for Kitson Pickers Always in Stock for Immediate Delivery

**Aldrich MachinE
WorkS**

Greenwood, South Carolina

Your Best Buy—NATIONAL ANILINE DYES



Growing integrated production makes National Aniline
the preferred source for both civilian and military dyestuffs.
For unusual color effects, ask National Technical Service
to provide exact matches and low-cost formulas based on available

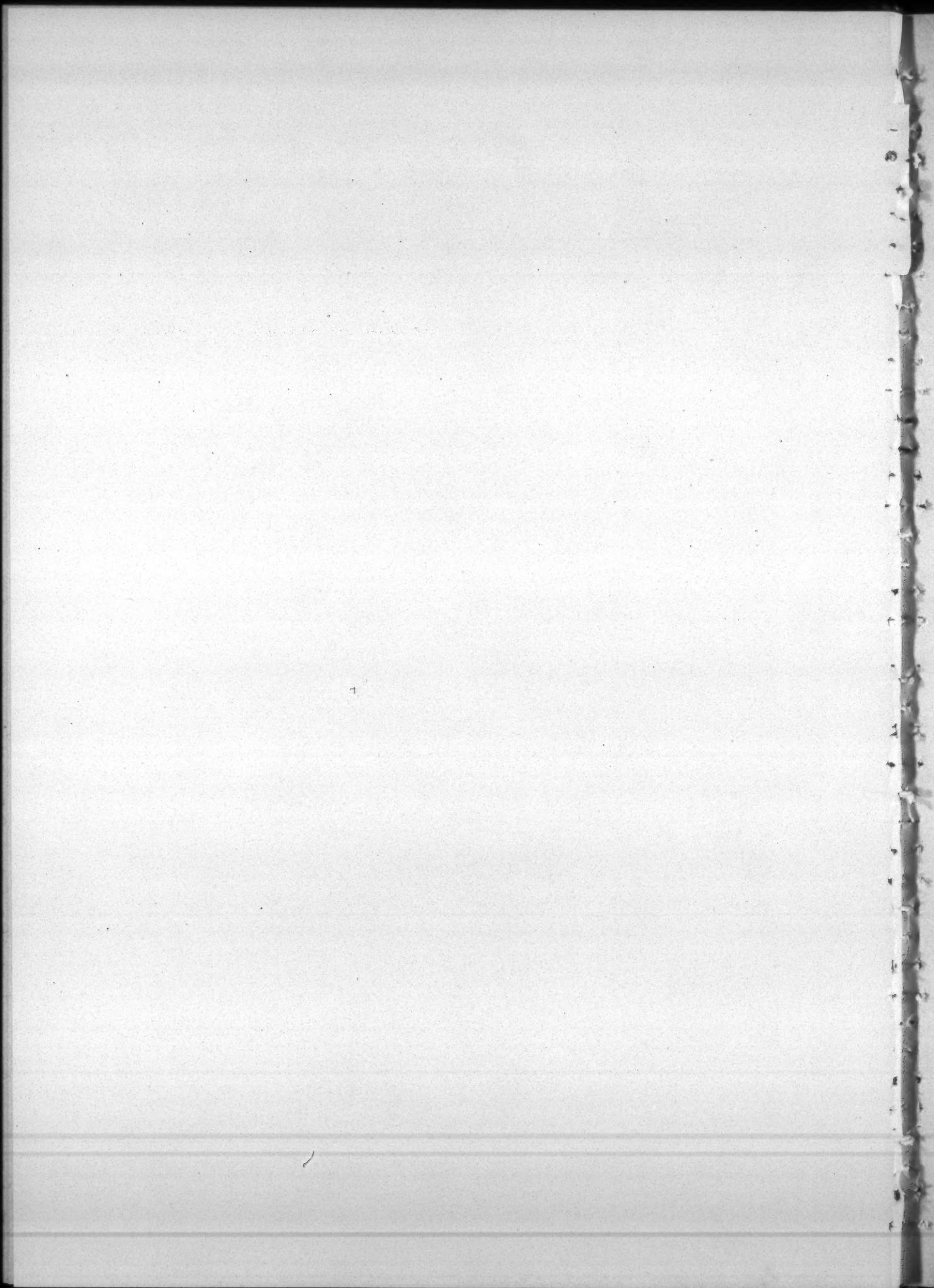
National Aniline Dyes

For prompt service on the colors you need, write, wire or phone our nearest office.

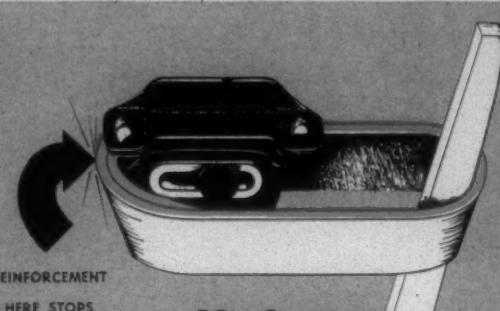
NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N.Y.



Boston Providence Philadelphia Chicago San Francisco
Portland, Ore. Greensboro Charlotte Richmond Atlanta
Columbus, Ga. New Orleans Chattanooga Toronto



*What a job it is doing on
High Speed Looms!*



REINFORCEMENT
HERE STOPS
BREAKAGE

Nuform
Victory

CHECK STRAP

A loom fixer knows his check strap. That's his business . . . his stock-in-trade. Ask one whose looms are equipped with the SLIP-NOT *Nuform VICTORY CHECK STRAP*. He will tell you from experience that top efficiency and performance are an assured fact . . . that SLIP-NOT has the answer to modern loom checking with the *Nuform VICTORY CHECK STRAP*.

HERE'S WHAT THE Slip-Not Nuform Victory Check Strap WILL DO FOR You!

The *Nuform VICTORY CHECK STRAP*, when properly installed, will not only greatly prolong the life of the strap but it will also materially improve the checking quality.

The *Nuform VICTORY CHECK STRAP*, as illustrated with single helper, will eliminate breakage on the forward stroke caused by the shuttle check. The *Nuform VICTORY CHECK STRAP* is also available with a double helper.

The *Nuform VICTORY CHECK STRAP* will lengthen the life of the check strap on the

X series looms as much as from two to three times.

The *Nuform VICTORY CHECK STRAP* (Patent No. 2,374,042) is individually designed to your particular specifications.

The *Nuform VICTORY CHECK STRAP* is made in left hand and right hand for Draper looms. A special right hand *Nuform VICTORY CHECK STRAP* is available for the Crompton-Knowles S-6 loom.

The *Nuform VICTORY CHECK STRAP* is made of the same high quality SLIP-NOT hair leather as our regular *Nuform Check Strap*.

• WRITE OR WIRE FOR FULL PARTICULARS
AND ESTIMATED COST

SLIP-NOT
BELTING CORPORATION

KINGSPORT • TENNESSEE

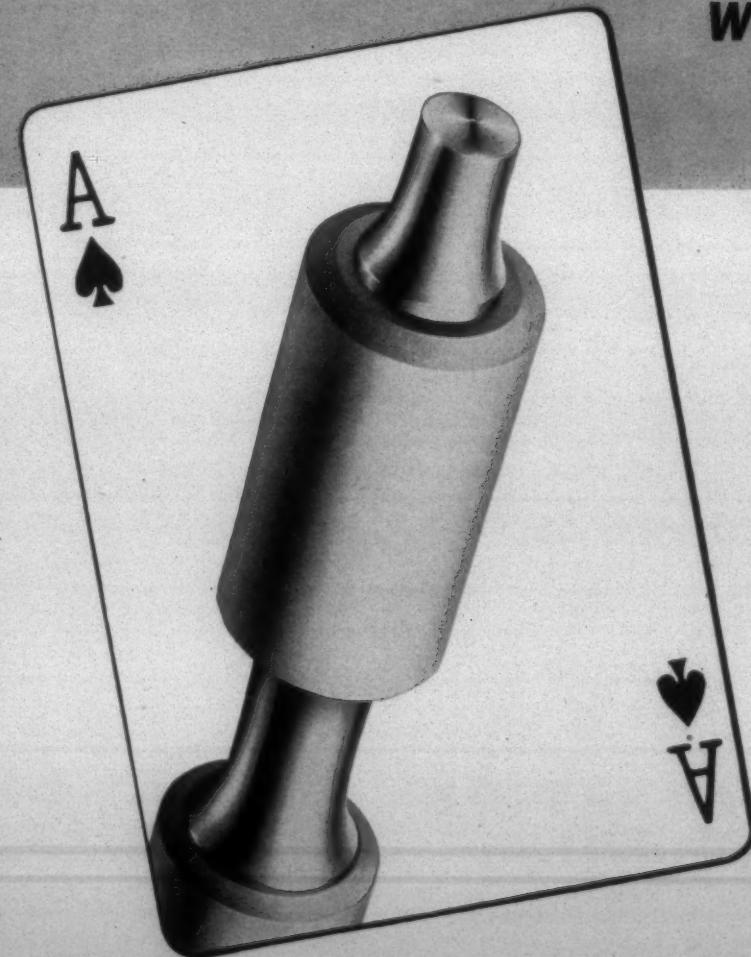
Manufacturers and Distributors of Power Transmission Equipment

NOTE:
The genuine *Nuform VICTORY CHECK STRAP* is identified by its yellow colored top edge. Don't accept a substitute or an imitation.

How to Win in a draw!

THE NEW IMPROVED DAYCO COT

*with fiber
repellence plus!*



- ★ SAVES LABOR COSTS
- ★ STOPS TIME-OUTS FOR
ENDS-DOWN AND LAP-UPS

This new "spinner" even tops the sensational service that other types of Dayco Cots have given! And, if you're now using ordinary cots, this new and improved Dayco will increase the cot life you're now getting by years!

It's made of an entirely new compound of American Rubber, scientifically blended for fiber non-attraction. Its non-stop performance cuts non-productive costs—the cost of time and labor required to cope with ends-down, lap-ups. It's versatile, too—use it for spinning all types of fibers: cotton, wool, blends or synthetics.

THE DAYCO LONG DRAFT APRON...

*The
precision
apron*

No false starts after a shut-down, when your frames carry Dayco Long Draft Aprons! Just turn on the power and spin, right from mill-opening on Monday. No warm-up period before you can begin production. "First apron I ever saw that you wouldn't lose a few with, when starting up!" says a South Carolina overseer.

Because it's precision made, you can change apron length by as little as 1/64" in diameter. Dayton's own

exclusive method of marking for the two-apron system guarantees you a perfect fit, for any age or type of cradle. Thickness, diameter, and width never vary.

To learn more about these two fine tools for better drafting, as well as the other Dayco and Thorobred products, see your salesman; or write: *Dayton Rubber Co., Textile Division, Woodside Bldg., Greenville, S. C.*

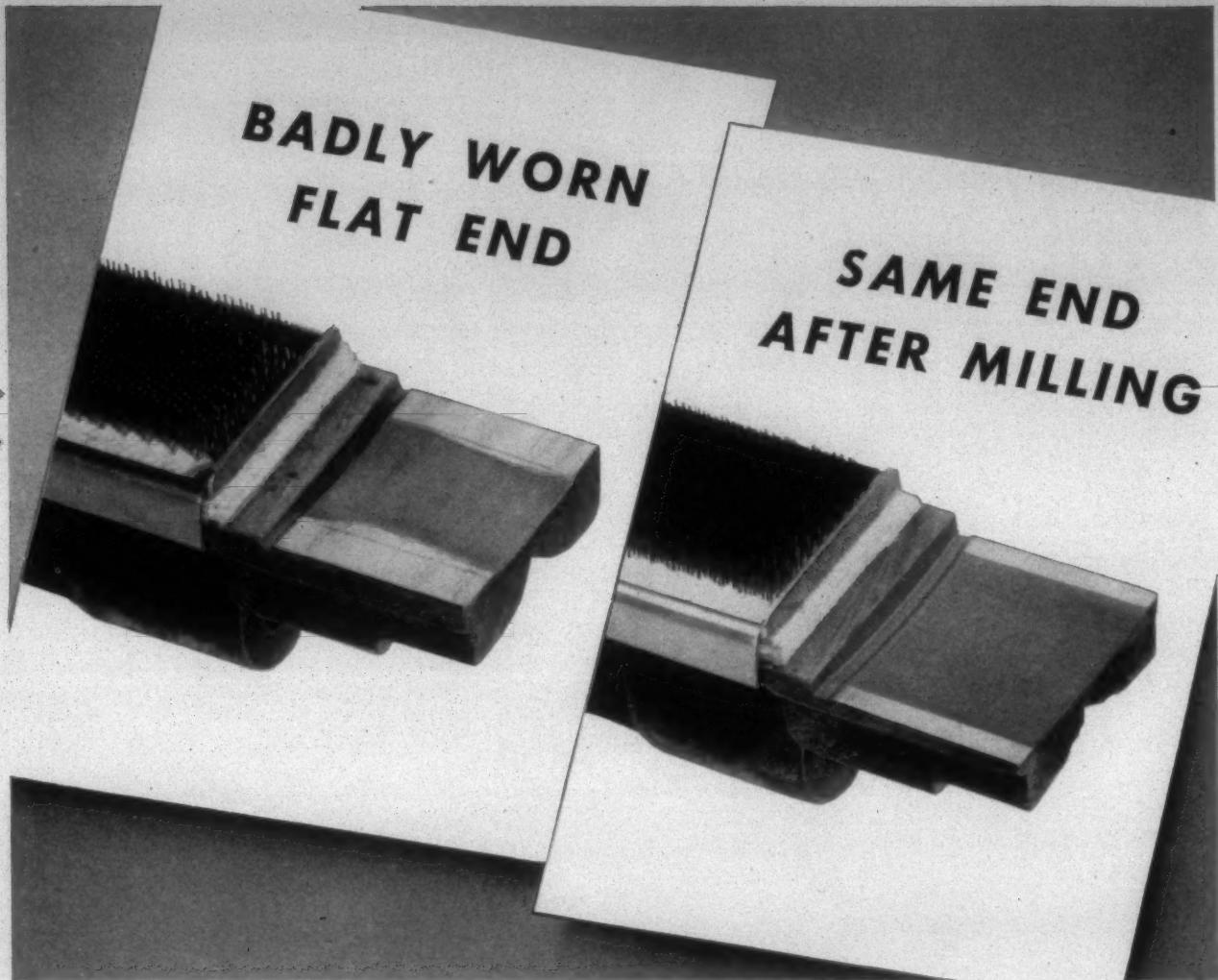
**Girls like this six-shooter are cuter, because
Dayton's in on the draw, helping spin and weave
winning costumes that make pretty cowpokes prettier.**



- * **SAVES STARTING TIME**
- * **SPEEDS PRODUCTION**
- * **CUTS MAINTENANCE COSTS**



Dayton Rubber



Remill Your Flats When Necessary It's Part of Our Improved Flat Reclothing Service

Reclothing your flats won't stop poor carding, if your flat ends are badly worn. When you order flats reclothed, why not do a complete and thorough job? Our Fall River, Charlotte, Atlanta, and Greenville repair shops are better equipped than ever before to give you the following reclothing service:

1. Reclothe your flats.
2. Supply new flat chains for any make of card.
3. Last, but not least, remill your flats, when necessary.

Try this improved repair service and notice the difference in card performance.

PRODUCTS AND SERVICES

Card Clothing for Cotton, Wool, Worsted, Silk, Rayon and Asbestos Cards and for All Types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire, Lickerins and Top Flats Reclothed.

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

Fall River*†‡ Worcester*‡ Philadelphia*†‡ Atlanta†‡ Greenville*†‡
Charlotte†‡ Dallas†‡ (Textile Supply Co.)

*Factory †Repair Shop ‡Distributing Point

4 FACTORIES 6 REPAIR SHOPS 7 DISTRIBUTING POINTS

You Pay Less for



You Pay Less for LABOR

on a



job

This Simple Test Will Prove It

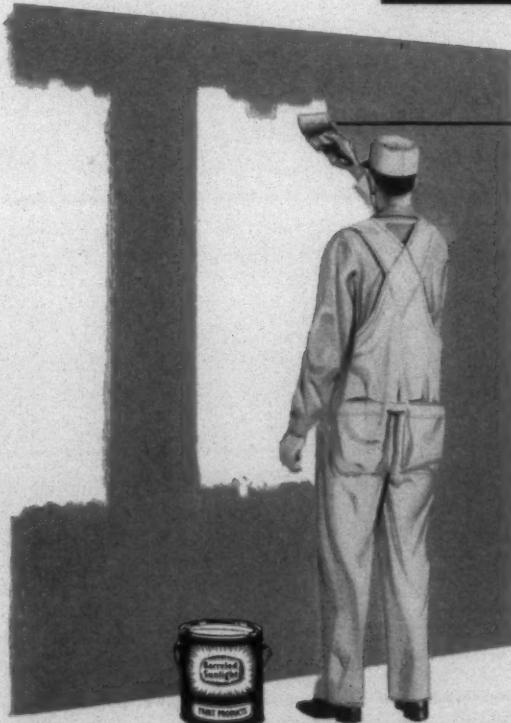
All you have to do is take a gallon can of Barreled Sunlight and a gallon can of any other good paint and thin each according to directions on the cans. You'll see that Barreled Sunlight gives you more paint ready for the brush. Which means that for proper maintenance painting you need less Barreled Sunlight. You save money on the cost of your paint.

But that solves only 20% of your problem. Let's look at the big end of a painting job — the labor end.

Mark off equal areas on a wall and "stop-watch" the length of time it takes your maintenance painter to paint one with Barreled Sunlight and the second with any other paint. You'll find that he can cover yardage much faster and better with Barreled Sunlight. Which means that with Barreled Sunlight you can cut your labor costs — the cost that represents 80% of the total cost of a paint job.

This practical test has been made by those in charge of maintenance for many prominent industrial, institutional and commercial buildings. And those who have made it have been consistent users of Barreled Sunlight . . . some for better than 50 years.

BARRELED SUNLIGHT PAINT CO., 5-G Dudley St., Providence, R.I.



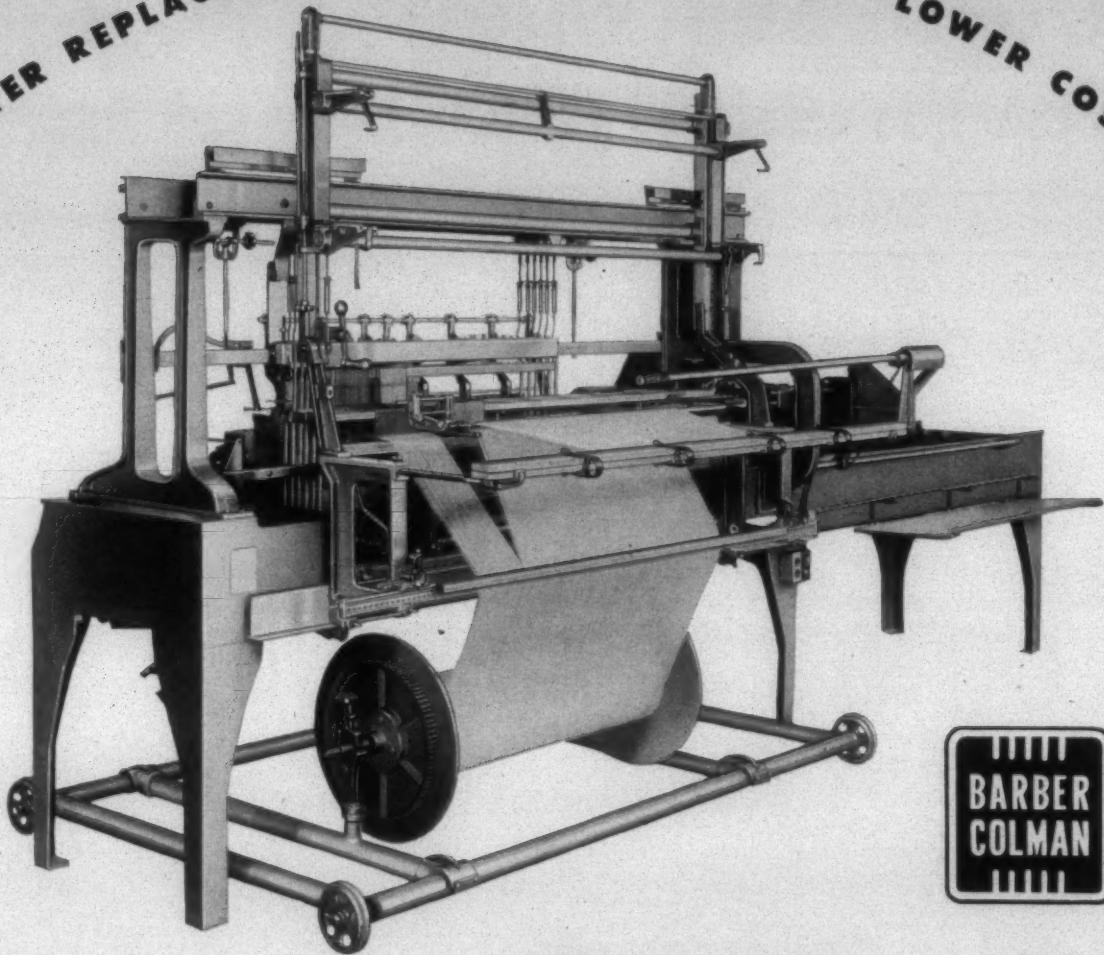
Let your nearest Barreled Sunlight representative show you how to measure potential savings in your maintenance painting. Write, and he'll call.

Barreled Sunlight Paints

*In whitest white or clean, clear, pleasing colors,
there's a Barreled Sunlight Paint for every job*

IT ALWAYS COSTS MORE NOT TO PAINT!

FASTER REPLACEMENT • STRAIGHTER WARPS • LOWER COSTS



BARBER-COLMAN MODEL **D** Warp Drawing Machine

The Model "D" Barber-Colman Warp Drawing Machine is especially suited for wide sheeting mills or other mills that rarely use more than six

harnesses and not more than four banks of drop wires, and that have a high percentage of drawing-in due to changes in width and quality of material.

Field reports show up to 4600 Ends per Hour
 Will draw warp from 10 to 300 ends per inch
 Will draw from either flat sheet or 1 x 1 lease
 Will draw from single or double beam or split sheet
 Will draw 1 x 1 lease in Double Beam or Split Sheet

Draws ends through drop wires, heddles and reed all in one operation. This machine will draw practically any type of draft, either complicated or simple, with the same speed and accuracy.

MACHINE CAPACITY: Reed, 6 Harness, 4 Banks of Drop Wires
 DROP WIRE CAPACITY: 9/32" through 3/4" wide

HARNESS FRAME LENGTHS	
Size of Machine	Maximum Overall Length of Harness
48	54"
66	72"
86	92"

WILL DRAW

- Cotton Yarns
- Filament Yarns
- Spun Yarns
- Woolens and Worsted
- Monofilaments

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY
 ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A.

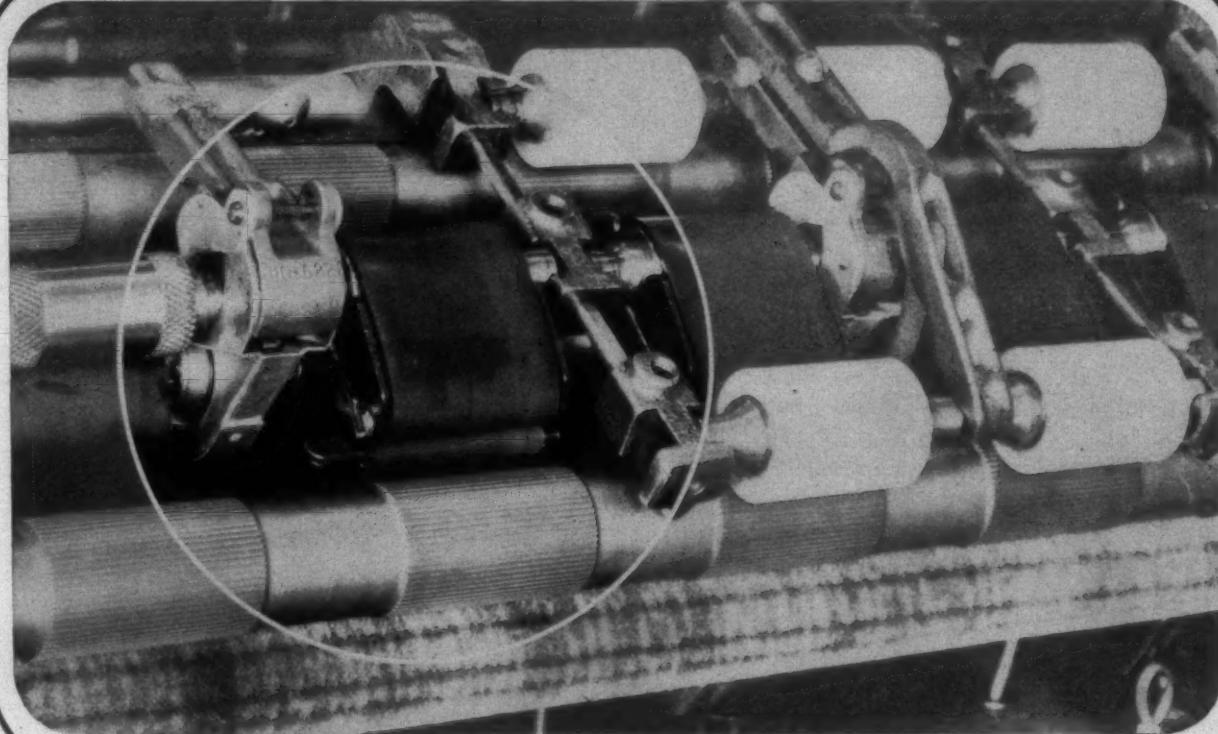
GREENVILLE, S. C., U. S. A.

MANCHESTER, ENGLAND

MUNICH, GERMANY

WHITIN Super-Draft Spinning

-another example of Progress through Research!



View of Super-Draft Spinning set-up for spun rayon, partially stripped down to show cradles, bands and pins.

Our latest development—Super-Draft Spinning—is but another example of progress through research at Whitin.

Introduced to the industry in 1950, it has proved to be very successful in actual mill operation. Conservative figures show that on cotton, drafts up to 40 for combed stock and up to 30 for carded stock have been easily reached. Drafts on spun rayon have been increased comparably.

The use of an improved cradle assures better fiber control, resulting in higher quality yarns of greater strength and evenness. Short fibers are con-

trolled closer to the nip of the front rolls. In the final analysis, Whitin Super-Draft spinning can pay you big dividends in lower costs, reductions in amount of card room equipment required, less creeling in the spinning because of coarser roving required and larger packages used, and increased labor productivity.

In these critical days, production at top speed is vital. New developments which may increase your output should be looked into without delay. We invite your investigation of Whitin Super-Draft Spinning.

Super-Draft Spinning is standard equipment on new spinning frames. It is also available as a full changeover or as a partial change-over on present long draft spinning installations of all types.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N.C. • ATLANTA, GA. • SPARTANSBURG, S.C. • DEXTER, ME.

WHAT OTHERS ARE SAYING

Workers Lost Their Jobs

A MASSACHUSETTS cotton textile plant was closed down last June, throwing 700 workers out of jobs. This mill could not meet competition, even after \$800,000 for improvements and new machinery had been spent in recent months.

The charge had been made that New England textile plants could not compete with those elsewhere in the country because of high electric power rates in the New England region. The manager of this plant denied that power costs had much, if anything, to do with it. High cost per unit of production was the reason, and the factors that entered into those high costs are state and local taxes, freight rates on inbound material, power and fuel costs, but principally, output per man hour. High wages and low production will put almost any business in the red.

One of the greatest curses of industry is the asinine idea so many workers have that they can achieve what is best for themselves by demanding the highest possible wages in return for the least possible production.—*The Howard Way*, Howard Bros. Mfg. Co.

Segregation And The Future

ACTION of the Virginia Conference of the National Association for the Advancement of Colored People in pushing for the abolition of segregation in the public schools, is a grave step, and one that evidently has been greeted with serious misgivings on the part of some colored leaders.

The Norfolk *Journal and Guide*, the well-known Negro weekly, says editorially in its current issue: "The change in procedure in the public schools cases by the N.A.A.C.P. legal department—with the full support of the national board—was a bold stroke, made with some hesitation by at least one prominent member of the staff in Virginia, and it is still not quite clear to many lay members in this State. The action is considered premature by some; opportune by others. . . ."

Previously the Atlanta *World*, only Negro daily in the country, and the Charlottesville *Tribune*, Negro weekly, had been among the papers which expressed doubt as to the wisdom of the

N.A.A.C.P. in seeking to abolish segregation at this time in the Southern public schools. Both papers favor its ultimate abolition.

The N.A.A.C.P. evidently has concluded that because the entry of about 1,000 Negroes into Southern colleges and universities heretofore reserved for whites, has been accomplished with no outward friction, legal moves to eliminate all segregation are opportune. Most N.A.A.C.P. leaders seem to have made up their minds that white and colored boys and girls can be forced to attend public schools together with no more difficulty than attended the entry of the Negroes into Southern colleges and universities.

There never was a greater mistake. What the remote future holds in this regard is not for us to say, but as of today it should be evident to any informed person that friction, trouble and even violence may be confidently anticipated, if segregation in the public schools is suddenly knocked out by court decree throughout the South.

Putting young boys and girls together in the same school rooms and on the same play grounds is a very different proposition from educating mature Negro students in classrooms with mature white students, mainly at the graduate and professional level. The adolescent period is especially important in this regard.

Already the filing of the N.A.A.C.P. suit in South Carolina, intended to eliminate segregation in the public schools there, has led Governor James F. Byrnes to say that South Carolina "will abandon the public school system," if it cannot continue the existing system.

The Georgia Legislature has included a budget provision that a public school or State-supported institution of higher learning which permits both white and Negro students to attend, would automatically stop receiving State funds. If such a restriction is held illegal, the budget bill provides, that funds will be cut off the school system affected. This is said to mean that if any unit in the university system permits mixed classes, funds will be denied all 16 units, including several Negro colleges.

Governor Fielding L. Wright of Mississippi has stated that Mississippi

will insist on racial segregation, "regardless of costs or consequences."

We do not associate ourselves with all of the foregoing, but when so reasonable a man as Governor Byrnes goes to the extreme length to saying flatly that South Carolina will abandon the public school system, rather than see boys and girls of both races educated in the same schools, the Negro leaders who are pushing matters to such lengths in South Carolina, Virginia and elsewhere, had better think long and hard.

Deeply rooted customs that have obtained for generations and centuries cannot be successfully overturned in a twinkling by court decree. The Negro has had much sharp and unjust discrimination to contend with, but his handicaps are being eliminated.

A false move now on the part of Negro leaders, designed to force abolition of segregation in the public schools, could, and probably would, undo all the progress that has been made. Governor Battle said recently that in agitating for abolition of segregation, the N.A.A.C.P. is about to do "irreparable injury to the public school system, if not completely wreck it."

Those are solemn words. Some level-headed colored leaders apparently know that they are true. The radical Negroes who have the bit in their teeth had better heed them, before it is too late. — *Richmond (Va.) Times-Dispatch*.

Brazen Tax Dodging

VANDERBILT University has purchased the Textron Southern textile mill at Charlotte for \$2,700,000 and leased it to its former owners.

That would seem to mean on its surface that this old educational institution was going into the textile business. It means nothing of the kind. The true intent is announced brazenly as "tax saving." The university has to pay no income taxes, State or federal, therefore what it gets in rent is 100 per cent clear. The textile concern, which is in direct competition with other like concerns which pay all taxes, saves on the deal because it can pocket the sales price, pay a rent that is less than its tax saving but still big

Dyeing the New Synthetic Fibres

AN INVITATION FROM CIBA RESEARCH

The immediate need for dyers to know more about the special dyestuffs and procedural requirements peculiar to the use of these new synthetic fibres by the textile industry has prompted Ciba Research to extend its activities in this direction.

Some of our research has achieved advanced results . . . other phases are preliminary and formative . . . but all of our present knowledge is available for your use. If you will write us about your particular problems our technical service staff will immediately provide you with up-to-date information to the full extent of our present research knowledge.



CIBA COMPANY INC.

627 GREENWICH STREET, NEW YORK 14, N. Y.

Boston
Providence

Chicago
San Francisco

Charlotte
Philadelphia



WHAT OTHERS ARE SAYING———

enough to give the university a handsome return on its investment.

And while all that is going on at the expense of the other taxpayers of the state and the nation, the former owner of the property will continue to operate just as if there had been no change whatever in ownership.

No doubt both the university and the textile mill are in the clear legally. But, patently, this is a loophole which should be plugged immediately. The

same sort of thing is going on all over the country. Vanderbilt University did not receive its tax exemption for the purpose of owning textile mills and should not be permitted to use it for that purpose.

Some years ago the State of North Carolina changed its laws regarding property taxes so as to require all educational, charitable and religious organizations to pay property taxes on property used for business purposes. The same rule should apply to income taxes and all other taxes.

This is the first case of this kind which has attracted attention in North Carolina. If the Congress and the General Assembly do not act, there will be numerous other cases of the same kind.—*The News & Observer*, Raleigh, N. C.

Separate Negro Hospitals

IT IS presumed that many of the readers of this magazine have observed with interest, and perhaps with dismay, the space which has been devoted in current hospital literature to a discussion of the advisability of constructing a new Community Hospital, serving Negroes exclusively, in Evanston, Ill. We feel that the issue has been exaggerated out of all proper proportion. We understand that this construction project has been approved by state and federal authorities, and that funds have been appropriated in accordance with the provisions of the Hill-Burton Act. It is hoped that this new facility may meet the needs of the 25,000 Negroes who reside and work in the surrounding community by replacing the improvised old institution which sustains the deplorable conditions that have been described. It is also hoped that representatives of Northwestern University's Medical School and the leading members of Evanston's medical profession may arrange educational plans in the new Community Hospital which will raise the standards of competence of all of the Negro doctors of the area.

It is not an unusual pattern in America to see at least two or three separate hospitals in urban centers, like Evanston. These may be controlled by local governments, or by Catholics, Jews, Methodists, Presbyterians, Baptists, Lutherans, or by other voluntary agencies. It may be contended by some that a community's best interests would be served by a single large hospital which admits all classes of patients. Certainly, that arrangement is not satisfactory in all situations. A hospital may conceivably be too large to function properly, or its program may be too wide and varied to permit an efficient system of co-ordination, control and management. Thus, we believe that urban communities which have large Negro populations are amply justified in the establishment of separate hospitals which are devoted exclusively to the service of these people.

At the same time, we wish to em-



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phasize that Negro patients and doctors are entitled to facilities in their hospitals that are generally comparable to any others that are afforded in the community. Though comparable, facilities and services may not necessarily be the same in all respects. At many points, there are sound reasons to give consideration to variations in racial habits, attitudes and preferences. In a high percentage of cases, it is assured that Negroes may be happier and better satisfied in their separate hospitals in which they have special pride and where unpleasant issues in regard to color may not arise. There is no real virtue in insisting or requiring that arrangements with reference to the hospitalization of Negroes and white people shall absolutely coincide at all points.

Hospital trustees, serving conscientiously and unselfishly, have the responsibility of formulating their plans and policies in ways which properly represent the traditions, sentiments and aspirations of their fellow-citizens. In the spirit of democracy, it is hoped that they may provide hospitals which truly reflect local and regional conditions, without confusion or deterrence by those who, lacking proper understanding, advocate the application of some ill-advised or ill-timed national or world-wide formula.

In many phases of life in the South, segregation of the races is required by law or ordinance. Complete integration of hospital services to white and Negro patients in the area of this magazine's circulation is impractical at this time. The principle of separate, but comparable, facilities is soundly entrenched, and remarkable progress has been made in recent years in inter-racial relations. It is hoped that the Evanston incident, and others of similar character which may have outside inspiration and agitation, will not seriously disturb the hospitals of the South.—*Southern Hospitals*

Silk Dies Hard

SILK dies hard and, in fact, at the moment is not dying at all but is attempting to stage something of a comeback in the United States through the importation of novel weaves of silk goods imported from India.

This is something worthy of the consideration of people in the cotton trade who are too much concerned

over the boasts of the rayon makers that, eventually, they will run cotton clean off the map.

The new silk weaves are new only in this country, as they are old in India. They are known as tussah silks and, in the 42-inch wide constructions, are the first to be seen in this country. Their novelty consists in their extreme heavy weight and some of them are "shaggy." They offer something entirely new when made up into sports jackets, shorts, slacks and casual clothes. The cloths are bound to go into only the "high-style" brackets of

clothing for they will have to be priced high, even for these times of high-priced clothing. Being so heavy, they naturally are much higher in cost than lighter goods.

One herringbone pattern sells for \$6.10 the yard. There is trick weaving in this pattern which produces what the manufacturers call a "subtle" effect. A pronounced shaggy cloth, also in herringbone weave, brings \$3.90 and seems to be the cheapest thing on the list. A "burlap" type of weave, 50 inches wide, is listed at \$6.25 a yard. It ought to go over with a bang for

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WHAT OTHERS ARE SAYING—

those who like sports jackets of extreme rough and ready appearance.

These heavyweight goods give silk an entirely new appearance, according to samples, and they possibly may cause as much of a stir among clothing manufacturers as the new fluorescent fabrics of other fibers, around which a patent fight already is raging.

In an entirely different direction, silk again promises to do better. That is in the realm of the necktie. In

strange contrast to the daring splashes of colors and zany designs on the scale of huge figures, the new silk ties are featured by very small, almost tiny, checks and figures in extremely neat patterns. Many people who have seen them regard them as a welcome change.

—*The Cotton Trade Journal*, Memphis, Tenn.

The Taft-Nixon Report

SOUTHERN states and communities in which textile manufac-

ting is an important industry are under obligations to two Republican senators—Taft of Ohio and Nixon of California—for their defense of the South against "an amazing and unjustified slur upon a great section of our country."

The two senators are members of the Senate Labor Committee of which a subcommittee recently issued a majority report charging that Southern employers, businessmen, and churches had *conspired* to destroy or block unionization of Southern textile mills, and said that manufacturers were quitting New England for the South mainly because of lower wages and absence of organized labor in the mill areas.

Being a member of the subcommittee, presumably Senator Taft had learned as much and knows as much about the situation in the Southern textile field as the majority members of the group, and certainly it must be assumed he can speak with as much authority as other members from states outside the South.

In their minority report, Taft and Nixon correctly asserted that "employers in the Southern textile industry do not differ greatly from employers in other parts of the country and Southern employers in other industries."

The two senators went to the heart of the matter when they said the majority of the subcommittee seemed to have assumed "that government policy is to unionize every plant regardless of the expressed wishes of the workers and to force workers to become members of the C.I.O. whether they wish to or not."

The two senators were justified in their view that the majority report appeared to have been inspired by the C.I.O. Textile Workers Union and that it "could not be more one-sided if it had been written by the attorneys for the union. . . ."—*Charlotte (N. C.) Observer*.

Taking Things For Granted

EVERYONE who has been around for an "open house" at the mill has heard more than one wide-eyed visitor say, in so many words: "I had no idea there's so much to making cloth."

In our case we call our product fabric, which, along with cloth, yarn and twine are essentials of life we could not get along without for long, yet the spinning and weaving and other

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steps that go into their making are mystery to millions of people, including many who live within easy visiting distance of one mill or another.

Our fabric, and other types of cotton products, are among many of the things we take for granted in America. Unfortunately we also take for granted even our freedom and our democracy.

Too many of us have "no idea there's so much" to democracy; too few of us have a clear idea of what keeps it going. For example, the role of industry in our kind of democracy is not yet widely understood. Only the most thoughtful citizen sees industry as a bulwark of freedom or as the source of the many good things, both physical and personal, that we enjoy in this country.

Yet, under threat of war we look to industry for the weapons and materiel with which to defend ourselves; in peace we look to it for goods for millions, for jobs and wages to support families and for taxes to support government. Damage industry in this country and we will destroy many of the things we cherish the most as a free nation and in our own lives personally.

The textile mill is one example of American industry. It's a big and important example, because the mills and the people who work in them and the goods they make add up to America's second largest industry. By this fact alone, the mill is mighty important, not only to the people who make their living in it, but to other millions, to every citizen who wants to keep our kind of free nation.

Too many Americans depend on the weaving and spinning industry, too much of the substance of America springs from its operations and its people, to be taken for granted.

Yes, indeed, there's so much to making ours, and other kinds of fabrics, and to safeguarding industry, and to keeping democracy. — *The Wingfoot Clan*, Goodyear Clearwater Mills, Rockmart, Ga.

Bigness Is Essential

Once we destroy our great corporations simply because they are big, we may pay too high a price in retarded progress. Size is not the criterion by which any enterprise should be judged. Its usefulness is measured by the service it renders to the public.—*Greenville (S. C.) News*.



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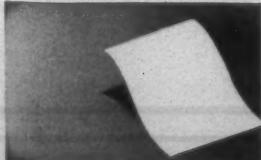
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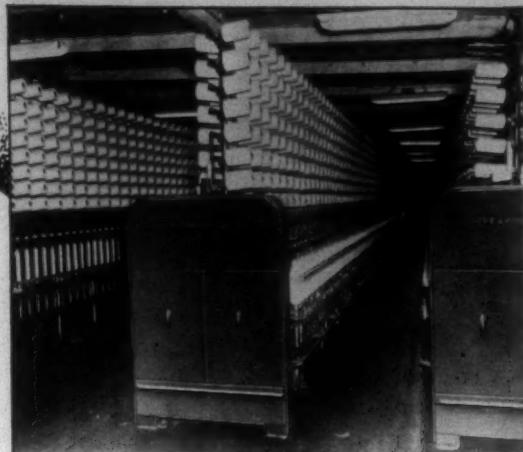
Supply packages on H & B Twisters can be beams as well as cones or tubes. Beam stands have ball bearings and a brake assembly which assures uniform and even tension let-off. Superstructure can have one or more beams. The shift to single beam operation is accomplished by moving one set of beam stands to the center position.

These and other additional efficiency features are why, when running yarn for tire cord, where perfect twist is required — most mills prefer H & B Beam Twisters.

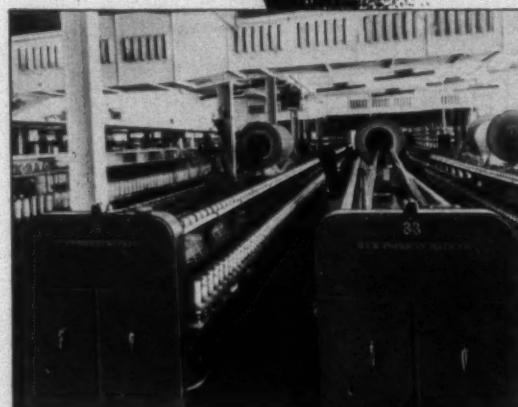
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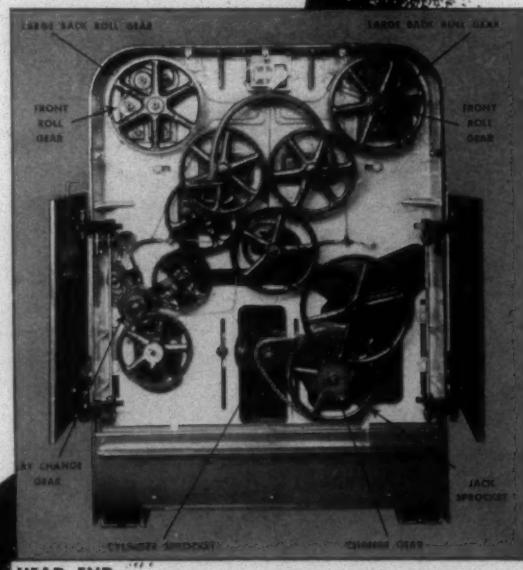
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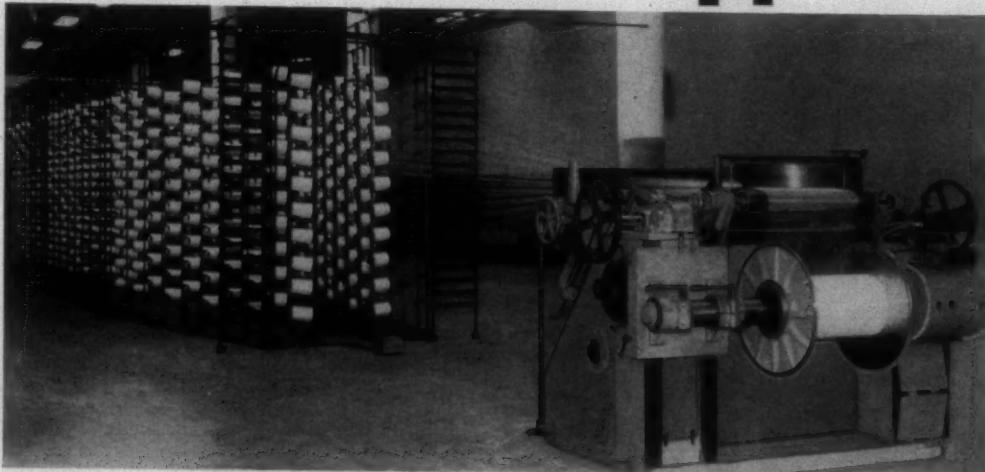
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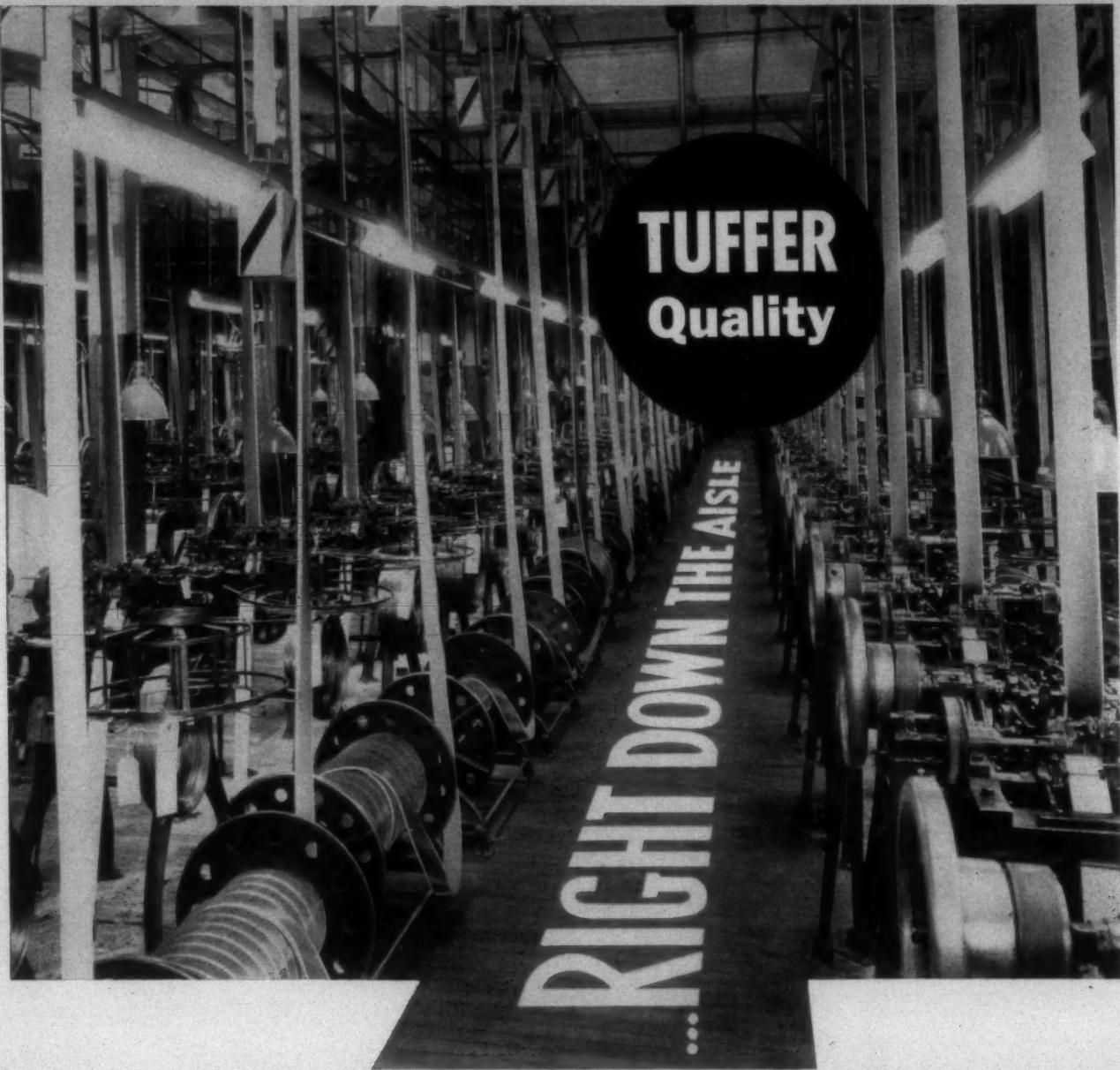
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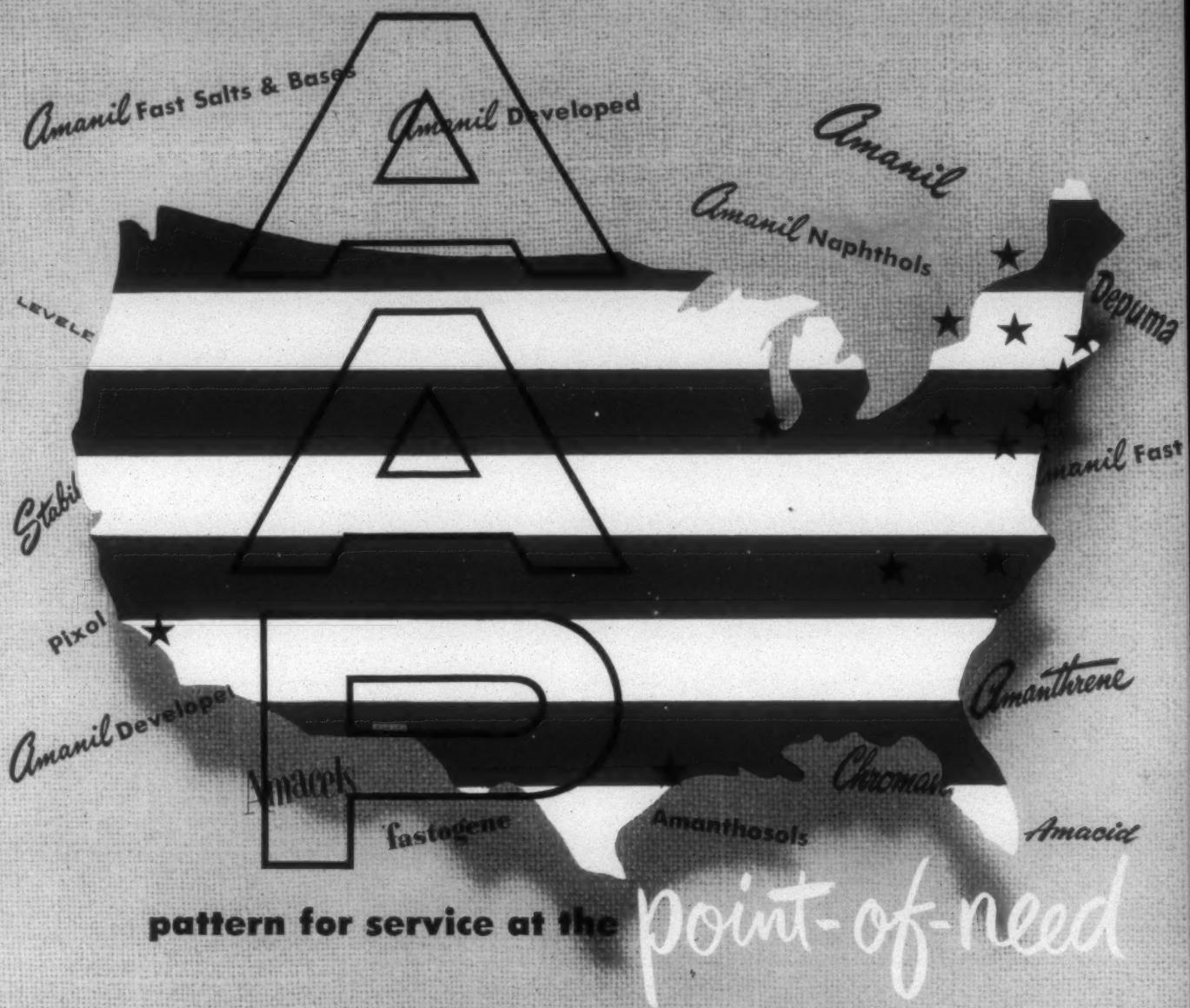
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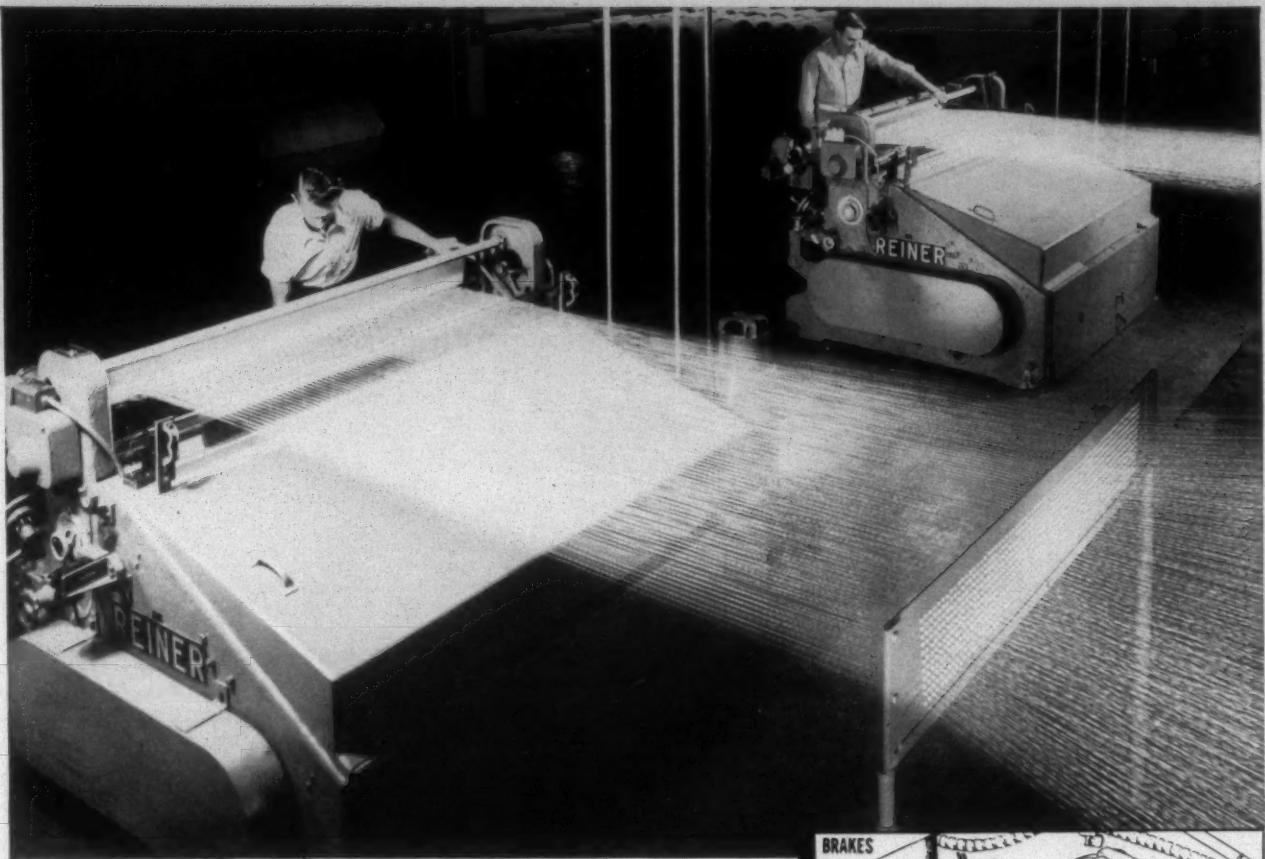
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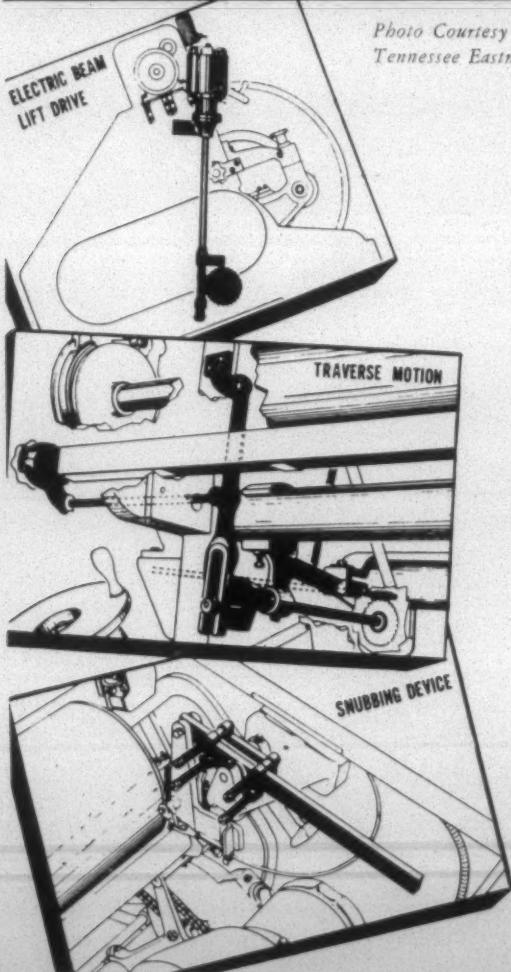
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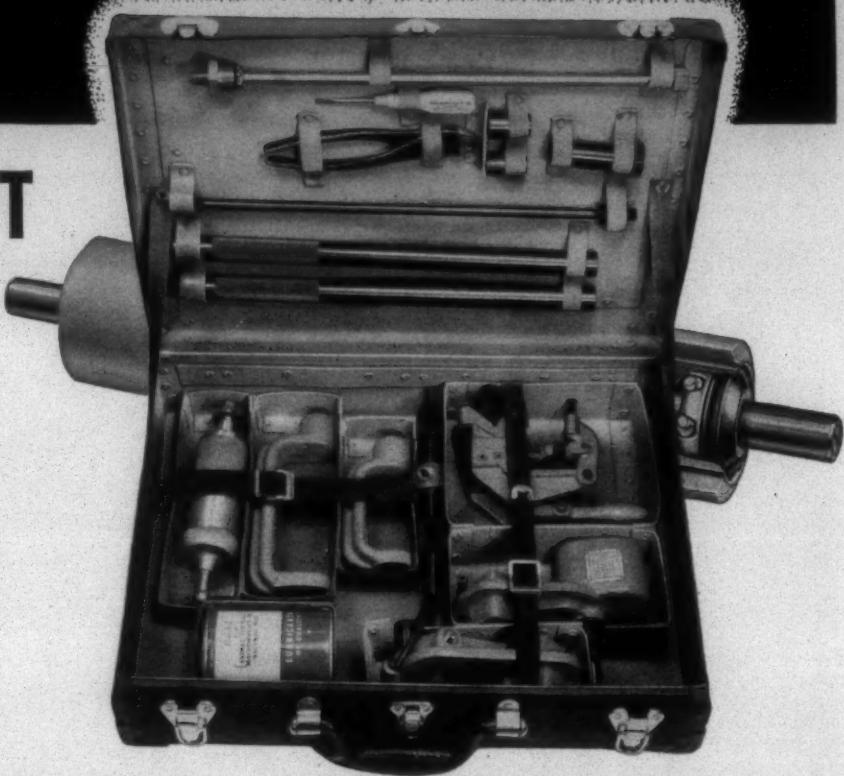
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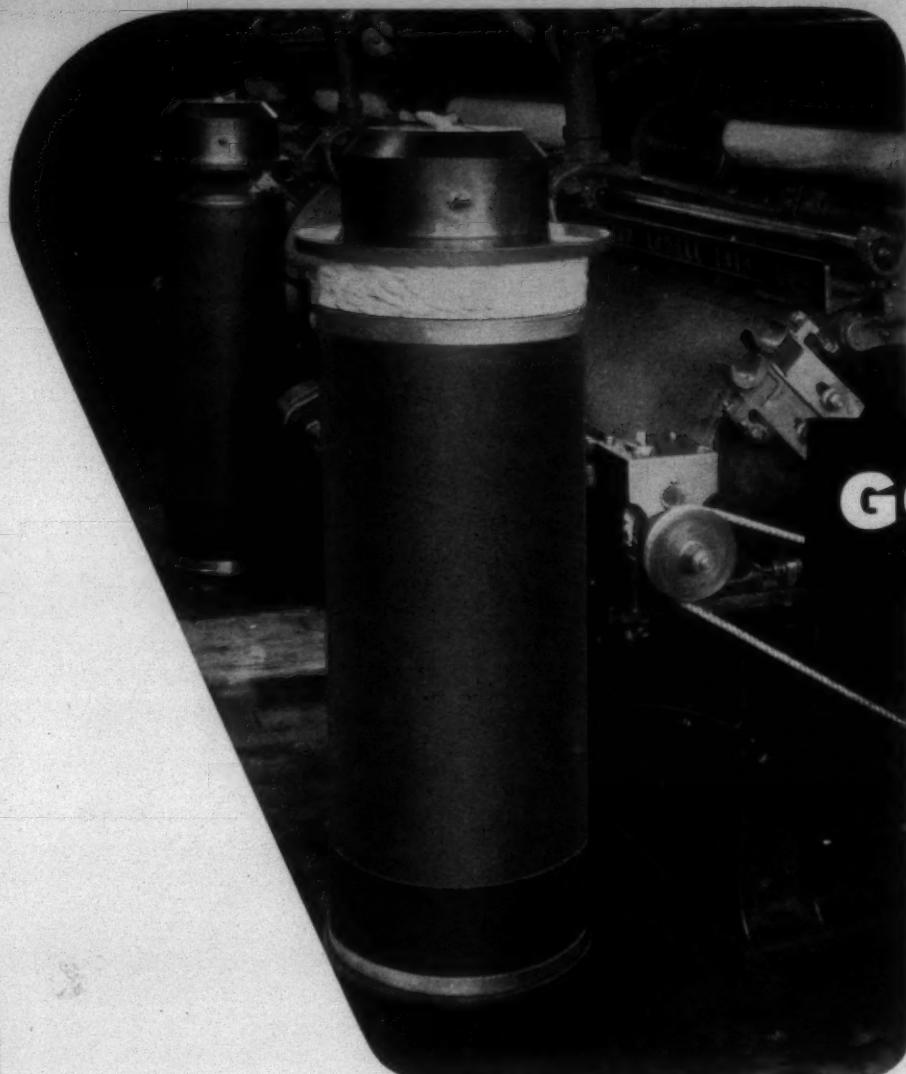
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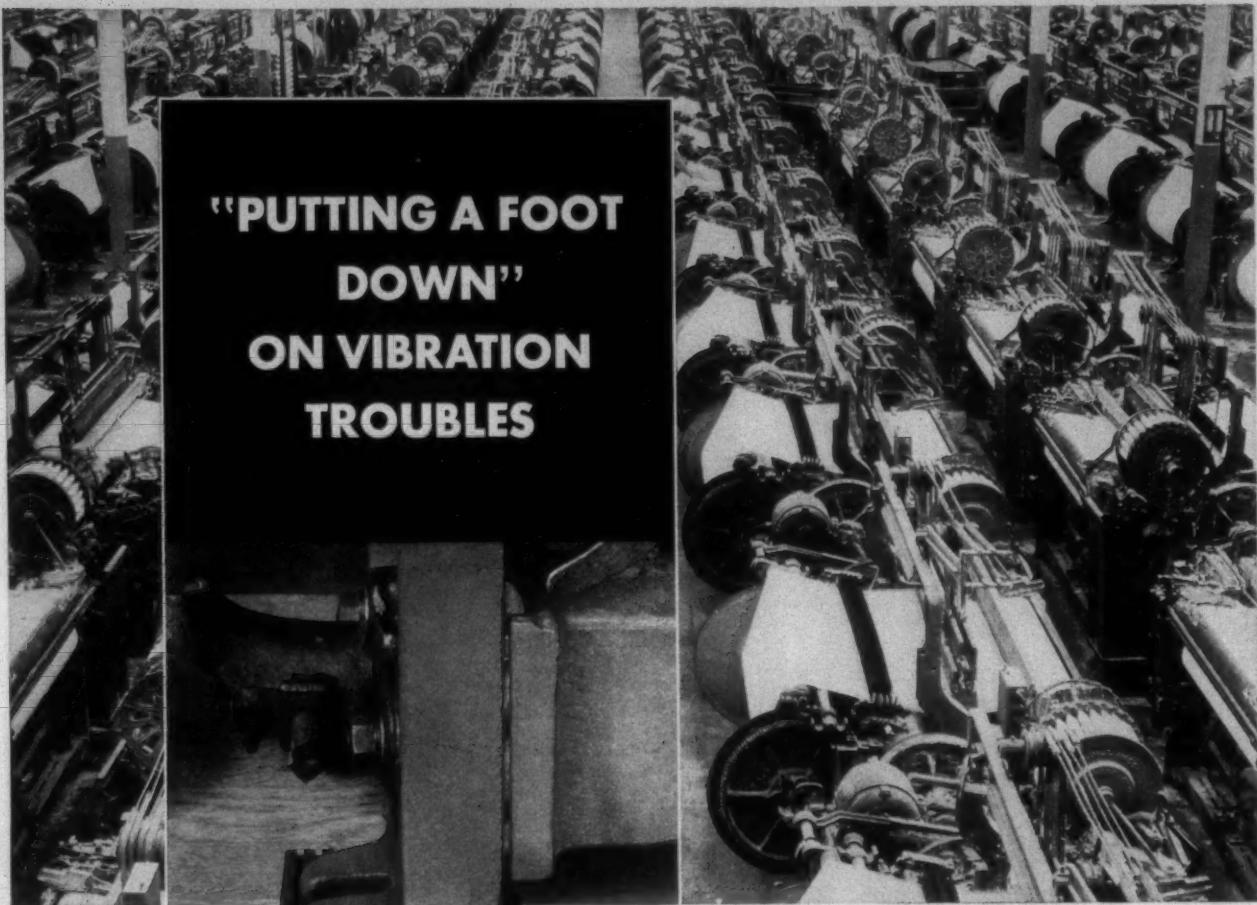
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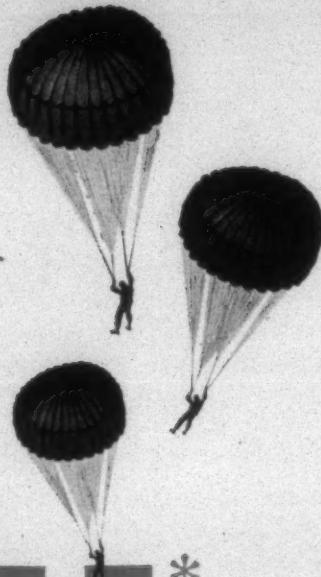
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to and from the
slashers

... weave loom
beam to and from
tying-in machine

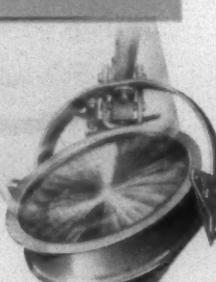
... loom beam han-
dling in the weave
room

... roll or bale han-
dling in finishing

... beam and cloth
handling in the dye
house

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textile bulletin

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School Segregation Upheld

A very important and far-reaching decision was rendered at Charleston, S. C., on June 23 by a three-judge Federal Court.

By a 2 to 1 decision the court upheld Negro segregation in schools but reminded the Southern states that they must provide equal school facilities.

Judge John J. Parker of Charlotte, N. C., wrote a very able opinion in the case and his sound logic should carry much weight with the United States Supreme Court.

Judge George Bell Timmerman concurred in the opinion written by Judge Parker but, as was to be expected, Judge J. Waties Waring of Charleston, S. C., dissented.

After Judge Waring had divorced his first wife, who was very much liked in Charleston, and married a Michigan woman whose background did not seem to give her a very high rating in Charleston, he and his new wife were ignored by most of the citizens of that city, especially those who were intimate friends of the first Mrs. Waring.

Judge Waring became very angry and when he and Mrs. Waring failed to gain admission to the St. Cecilia Society, which is almost the social register of Charleston, it is reported that he became angrier still.

We do not say that Judge Waring's decisions, which would force social equality with Negroes upon the people of Charleston and South Carolina, have been made because of the above stated events but it is true that while living with the first Mrs. Waring, and holding a position of social prominence in Charleston, he made no decisions in favor of social equality with Negroes nor is he on record as expressing any such views as are indicated by his recent decisions.

At the present time Judge J. Waties Waring could not get elected dog catcher in any town in South Carolina, but

by reason of an iniquitous system of appointing federal judges for life, he can thumb his nose at the decent people of South Carolina and there is nothing they can do about it.

The dissenting opinion of Judge Waring was expected and few people care what he said.

The important matter is the majority opinion as written by Judge John J. Parker and approved by Judge George Bell Timmerman in which they said in part:

In a country with a great expanse of territory with peoples of widely differing customs and ideas, local self government in local matters is essential to the peace and happiness of the people in the several communities as well as to strength and unity of the country as a whole.

The problem of segregation as applied to graduate and professional education is essentially different from that involved in segregation in education at the lower levels. . . . It is difficult for the State to maintain segregated schools for Negroes in this field which will afford them opportunities for education and professional advancement equal to those afforded by the graduate and professional schools maintained for white persons.

As good education can be afforded in Negro schools as in white schools and the thought of establishing professional contacts does not enter into the picture.

There is testimony to the effect that mixed schools will give better education and a better understanding of the community in which the child is to live than segregated schools. There is testimony, on the other hand, that mixed schools will result in racial friction and tension and that the only practical way of conducting public education in South Carolina is with segregated schools. The questions thus presented are not questions of constitutional right but of legislative policy, which must be formulated in realistic approach to the situation to which it is to be applied.

The federal courts would be going far outside their constitutional function were they to attempt to prescribe educational policies for the states in such matters.

There is nothing in the Constitution that requires that the State grant to all members of the public a common right to use every facility that it affords.

When 17 states and the Congress of the United States have for more than three-quarters of a century required segregation of the races in the public schools, and when this has received the approval of the leading appellate courts of the country including the unanimous approval of the Supreme Court of the United States at a time when that court included Chief Justice Taft and Justices Stone, Holmes and Brandeis, it is a late day to say that such segregation is violative of fundamental constitutional rights. . . .

The court held that the State Constitution does not violate the 14th Amendment. But it added that educational facilities for Negroes in Clarendon School District No. 22 "are not substantially equal to those afforded for white pupils (and) that this inequality is violative of the equal protection clause of the 14th Amendment."

The court, in its decree, then ordered Clarendon trustees to equalize their facilities for both races. It further ordered them to report back within six months "as to the action taken by them to carry out this order."

South Carolina is now planning a \$75,000,000 school construction program aimed at equalizing the school plants for the two races. The program will be financed by a three per cent general sales tax that went into effect July 1.

The statements in the majority decision of Judges John J. Parker and George Bell Timmerman are so logical that it is believed that United States Supreme Court will affirm same.

Negroes are not and never will be the equal of whites.

The *Greensboro (N. C.) Daily News* well said in a recent editorial:

History records that Greece produced Plato, Pericles and Aristotle; Italy produced Caesar, Dante and Aquinas; France produced Abelard, Montaigne and Joan of Arc; Germany produced Beethoven,

EDITORIALS

Goethe and Mann; England produced Shakespeare, Newton and Churchill; America produced Jefferson, Lincoln and Lee; Poland produced Conrad, Chopin and Mme. Curie; Russia produced Tolstoy, Chekov and Dostoyevsky; India produced Gautama Buddha, Gandhi and the author of the *Katha Upanishad*; China produced Li Tai Po, Confucius and Lao Tze; and the Jews produced Moses, Paul, Spinoza and Einstein.

Many white people ask: What has the continent of Africa produced to compare with what any one of these countries or races has done? And they have no answer to satisfy them.

Being able to sing, dance or play baseball is admirable but is no evidence of greatness and there are few Negroes who have been outstanding in other lines.

Without a single exception, African tribes, where left to themselves, have made no progress in two thousand years.

About 60 years ago there was a movement to send American Negroes back to Africa and the United States spent several million dollars establishing Liberia as a haven for Negroes.

Those who are interested can read the report on Liberia made after an investigation by the Firestone Rubber Co.

It said that conditions were deplorable and that there was more slavery in Liberia than ever existed in the United States. That only a small portion of the people were allowed to vote and that there was not a saw mill in the entire country.

In Liberia the Negro had his chance and showed his lack of ability.

In no other section do the people have such a sincere interest in the welfare of the Negro as in the South but nothing short of an overwhelming number of federal bayonets will ever force the white people of the South to live on terms of equality with them.

In the 86 years since the Civil War not over ten white men, in the United States, have ever married Negro women.

A few white women have married Negro men but white men do not marry Negro women and that shows that there never will be any amalgamation of the two races.

Gammon Should Be Tried

On June 18, Nellie Tucker, an employee of the Berryton Mills, Berryton, Ga., was killed when strikers overturned a car carrying her and five other women to work. She tried to jump from the car and was crushed beneath it.

Murder charges were filed against six men and two women, who participated in the overturning of the car, and as we go to press they are in jail awaiting trial.

Also in jail is one striker charged with dynamiting, which is a capital offense in Georgia, and one man charged with attempting to dynamite property. A section of the water system of Berryton was blasted and the town left without water.

There are, also, sixteen strikers who are under contempt of court charges because of mass picketing in defiance of a court order.

As Nellie Tucker lay dying under the car, which the strikers had overturned, both men and women in the strike crowd started clapping hands, jumping up and down and singing union songs.

On July 9 the strike was called off without having gained a single point and the strikers swarmed around the mill office asking to be taken back at exactly the same wages

and under exactly the same working conditions as when they left their machines.

The trial of the six men and two women who are charged with the murder of Miss Nellie Tucker will begin on July 22, but in our opinion the person who should be tried for that murder is Hugh Gammon, the C.I.O. organizer of Rome, Ga., or one of his associates.

Some one directed the activities of the strikers and stirred them to the point of making attacks upon the men and women, such as Miss Tucker, who sought to enter their chosen places of employment.

The strikers lost many weeks of much needed wages but Hugh Gammon and other C.I.O. organizers lost nothing as they were paid in full for every week of the strike.

We have no doubt that those whose actions resulted in the death of Nellie Tucker wish that Hugh Gammon or the one of his associates who inflamed their minds, could be forced to take their places at the bar of justice.

It Happened In The North

When a group of young Negroes raped two white girls on a train near Scottsboro, Ala., many people in the North put up money and made desperate efforts to prevent them from being punished.

James Wright, one of the Negroes who was paroled after serving a term, has now been arrested at Albany, N. Y., on first degree rape charges involving a 13-year-old Negro girl.

When a Negro bus driver attempted to move his family into an apartment in Cicero, Ill., one of the worst riots in the history of Chicago resulted.

No Negroes live in Cicero.

The clash climaxed three nights of violent demonstrations in which windows were smashed, and the Negro's furniture was dumped out the window and burned.

The crowd estimated at 4,000, peppered the National Guardsmen, policemen and the apartment building with bricks and stones and firecrackers. Several police cars were damaged by hurled bricks. At least eight persons were injured in the battling—four cut by bayonets and four injured by thrown missiles—and an apartment building was set afire.

Had the riot occurred in the South, all Northern newspapers would have carried big headlines.

Rieve Gambled And Lost

Emil Rieve, who a few months ago eased George Baldanzi and several other top C.I.O. officials out of positions of influence in the organization so that he could become the supreme boss of the T.W.U.A., took a big gamble in April and lost.

He caused a large number of Southern textile workers, claimed by him to be 40,000, but much less than that number, to leave their jobs. After the strikers lost about eight weeks of pay, they went back to work without having gained a single thing to compensate them for the loss.

Had Emil Rieve been a more intelligent man, he would have realized that it was a most inopportune time to call a strike, as the buying of textile goods had slowed down greatly and many mills did not find curtailed production distasteful.

Emil Rieve took the gamble because he believed that



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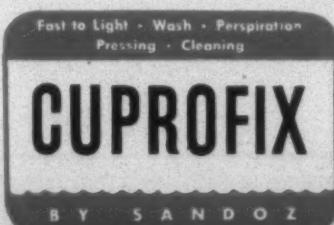
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SANDOZ thinks ahead with textiles



EDITORIALS

his friends in the U. S. Department of Labor at Washington would come to his aid and force the mills to meet his demand for an advance in wages but they did not come through and the ill-advised strike which cost the members of the union an immense sum in wages lost was a complete flop.

One mill has estimated it will require ten years for the two cents per hour raise which they gave, to equal the wages lost during the strike.

Emil Rieve, who aspired to be total boss and dictator of the T.W.U.A., dealt the organization a severe blow and has caused it a heavy loss in membership. Although he had been badly treated by Rieve, George Baldanzi came to his aid during the strike and gave him what help he could, and union members are now wondering if they did not make a mistake in allowing Rieve to kick Baldanzi around.

Rieve Stay 'Way From Our Door

We just had time before going to press with last month's issue to report on a National Labor Relations Board election held for the employees of Lynchburg (Va.) Hosiery Mills, Inc. Of 889 workers who were eligible to vote, 753 voted against representation by the Textile Workers Union of America, a C.I.O. affiliate, while 136 voted for the T.W.U.A.

We would ordinarily record the above and let it go with a "Rieve stay 'way from our door, you shoulda known better" (Rieve being the national T.W.U.A. president), but the post-mortem on this particular election brought forth some interesting statements by T.W.U.A. leaders which seem worthy of comment.

Union officials said that the five-week strike this Spring at Dan River Mills in nearby Danville, Va. (which the T.W.U.A. had to give up because it got not one single concession from management), probably contributed to the union's failure in Lynchburg. According to Boyd E. Payton, Upper South director for the T.W.U.A., the union's entire Lynchburg staff was pulled out of that town to work at Danville while the Dan River strike was in progress, and during that time, says Payton, the hosiery mill's management was able to win over its employees. That statement takes the form of suggesting that the Lynchburg management used dirty methods to persuade its employees against their own judgment.

The one reason most likely to account for the union being rejected by such a big majority at Lynchburg is not mentioned at all: *the intelligence of the employees*. They



President Clarence Burton (with necktie and white shirt) of Lynchburg Hosiery Mills joins in workers' celebration of the defeat of the Textile Workers Union of America.

obviously are satisfied with things as they are and refused to be persuaded by outsiders that they haven't enough judgment to decide for themselves whether they are satisfied with their jobs.

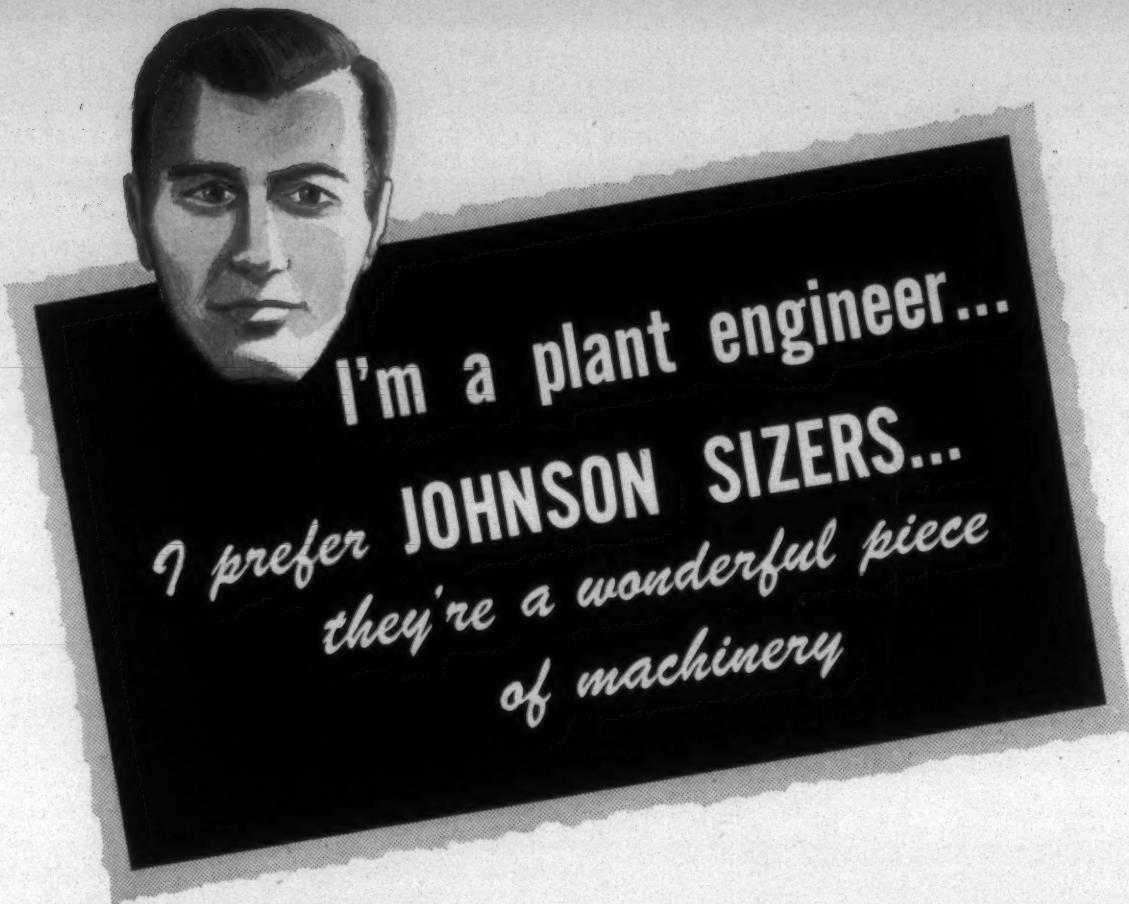
With the attempt of the T.W.U.A. to organize Lynchburg employees so long on the union docket, the employees certainly had enough time to decide for themselves what they preferred. Their verdict was decisive, considering the size of the vote by which they turned away the union. The C.I.O. charge of dirty management methods is the standard—but very trite—current union technique of always accusing an opponent of unfairness.

If what the Chinese philosopher is reported to have said is correct, the two pictures published herewith will save us a couple of thousand words in further dealing with the Lynchburg situation. The persons shown in the pictures seem to be pretty happy. When the N.L.R.B. polls were closed at 6 p.m. May 25, crowds of workers congregated outside the mill gates awaiting the election results. After that they swarmed into the mill cafeteria, where they presented President Clarence G. Burton with a three-tiered white cake decorated "Win or lose, you're the man we choose." The cake, and some flowers, were the gifts of employees in various sections of the plant and were bought before the outcome of the election was known.

The C.I.O. had been concentrating on organizing the hosiery mill for the past two years and petitioned the N.L.R.B. for an election last December. Last Spring, when labor forces were promoting a Payton-for-Congress movement, the union leader declined with the statement that he'd rather organize Mr. Burton's mill than win Mr. Burton's seat in the United States Congress, where he is representative from the Sixth District of Virginia. Therein is



The sign in center of picture above expresses the sentiments of Lynchburg Hosiery Mill employees.



"I look for good engineering in every machine I see. The Johnson sizer is tops in a lot of ways. Take the cylinders. On Johnson slashers these are true and smooth. I like the ends too. They stand the heavy loom beams we are running today."

"I like Johnson's way of assembling and running a slasher at the factory before shipment. We started our Johnson slasher operating *two hours* after it was assembled on our floor. Every part fitted. Tolerances were close. These are only two or three of the Johnson features that speak of the careful engineering that appeal to me. That's why I rate Johnsons as 'tops.'"

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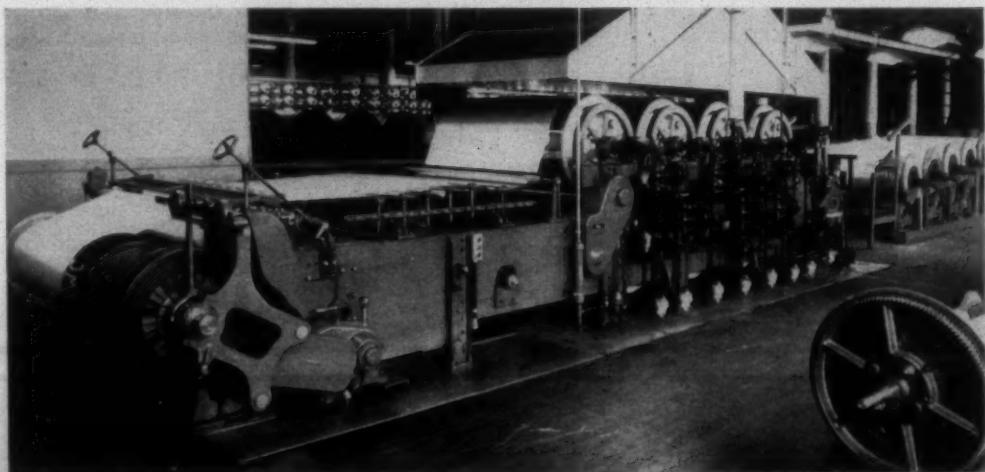
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EDITORIALS

the key factor of the situation. Payton, whose union spends most of its time badgering spinning and weaving mills and has no business in the knitting industry, was interested in the welfare of Lynchburg Hosiery Mills workers only to the extent that he could hurt Mr. Burton.

Mass celebrations by the Lynchburg workers continued throughout Friday, May 25, and the demonstrations were highlighted with a large sign which read "We Are Still Free." At noon on Friday, Mr. Burton announced that each employee would be treated to a free lunch in the mill

cafeteria. All but 136 employees were happy, and we suspect that right many of *them* now feel relieved.

And speaking of happy or unhappy folks, we figure that there now is a maximum of 59 malcontents employed at Halifax (Va.) Worsted Mills, a division of Pacific Mills located a few miles southeast of Lynchburg and northwest of Danville. That is the number of workers who voted for the T.W.U.A. in an election held by the National Labor Relations Board; 374 employees voted against the union. That's an even greater majority percentagewise than the vote at Lynchburg, which was better than five to one. Maybe Payton shoulda stayed 'way from Halifax, too.

In respect to "unfairness" and "dirty methods," we do not think we go too far out on a limb in assuming that Union Leader Payton has made the acquaintance of one John Howard Crew, business manager of the Pittsylvania County T.W.U.A. Joint Board at Danville, who was arrested, convicted and fined after Danville police found three sticks of dynamite and an assortment of explosive items in the Crew home; this fellow Crew, to the best of our knowledge, is not in the stump removing or land clearing business.

During his travel and travail maybe Payton has made his how-de-dos to Hugh Gammon, the C.I.O. organizer at Rome, Ga. (see editorial entitled "Gammon Should Be Tried"). Gammon's territory included the A. D. Julliard mills at Rome and Aragon, Ga. At Rome a striker was given a 20-day jail sentence and a \$200 fine for using a piece of pipe on a non-striking loom fixer's head instead of on the mill's plumbing; at Aragon, midnight bomb explosions, a roadside ambush and shots in the dark at non-union employees featured the T.W.U.A. strike there.

The C.I.O. seems quite willing to use the provisions of the law to establish its rights with management, but it does not trust the same law, even in the hands of a biased labor board, to determine responsibility for failure to reach a contract. Instead, it asserts the "right to strike." But the right to strike does not, and never will, include the right to murder or the right to dynamite. The privileges accorded by law to labor unions should be restricted to those organizations that themselves live within the law. If they indulge in unlawful activities, they should be denied the governmental assistance extended them on the theory that thereby labor disputes will be settled peacefully.—McA.

TEXTILE INDUSTRY SCHEDULE

—1951—

Aug. 23-24—TEXTILE QUALITY CONTROL CONFERENCE (sponsored by textile committee of American Society for Quality Control), Clemson House Hotel, Clemson, S. C.

Sept. 8—SOUTHEASTERN SECTION, A.A.T.C.C., Columbus, Ga.

Sept. 12—A.A.T.T., Builders Club, New York City.

Sept. 13-14—Fall meeting, FIBER SOCIETY, Swampscott, Mass.

Sept. 28-31—Annual convention, SOUTH ATLANTIC COUNCIL OF INDUSTRIAL EDITORS, Asheville, N. C.

Sept. 22—PIEDMONT SECTION, A.A.T.C.C., Charlotte Hotel, Charlotte, N. C.

Oct. 3—A.A.T.T., Builders Club, New York City.

Oct. 4-5—Annual convention, CARDED YARN ASSOCIATION, Carolina Inn, Pinehurst, N. C.

Oct. 17-18—Annual national convention, AMERICAN ASSOCIATION OF TEXTILE CHEMISTS & COLORISTS, Statler Hotel, New York City.

Oct. 18-19—Annual convention, NORTH CAROLINA COTTON MANUFACTURERS ASSOCIATION, Carolina Hotel, Pinehurst.

Nov. 7—A.A.T.T., Builders Club, New York City.

Nov. 8-9—Annual meeting, TEXTILE RESEARCH INSTITUTE, New York City.

Nov. 26-Dec. 1—EXPOSITION OF CHEMICAL INDUSTRIES, Grand Central Palace, New York City.

Dec. 1—SOUTH CENTRAL SECTION, A.A.T.C.C., Hotel Patten, Chattanooga, Tenn.

Dec. 3—AMERICAN ASSOCIATION OF TEXTILE TECHNOLOGISTS, Builders Club, New York City.

Dec. 8—SOUTHEASTERN SECTION, A.A.T.C.C., LaGrange, Ga.

—1952—

March 3-7—Spring meeting and committee week, A.S.T.M., Hotel Statler, Cleveland, O.

April 16-17—Spring meeting, FIBER SOCIETY, Clemson House, Clemson, S. C.

April 18-19—Annual convention, COTTON MANUFACTURERS ASSOCIATION OF GEORGIA, Boca Raton (Fla.) Hotel and Club.

May 6-9—INTERNATIONAL LIGHTING EXPOSITION AND CONFERENCE, Cleveland (Ohio) Auditorium.

May 15-17—Annual outing, CAROLINA YARN ASSOCIATION, The Carolina, Pinehurst, N. C.

May 15-17—Annual convention, AMERICAN COTTON MANUFACTURERS INSTITUTE, Haddon Hall, Atlantic City, N. J.

June 23-27—Annual meeting, AMERICAN SOCIETY FOR TESTING MATERIALS, Hotel Statler, New York City.

Nov. 6-8—Annual national convention, A.A.T.C.C., Boston, Mass.

—1953—

Sept. 17-19—Annual national convention, A.A.T.C.C., Stevens Hotel, Chicago, Ill.

—1954—

April 26-May 1—AMERICAN TEXTILE MACHINERY EXHIBITION, Atlantic City (N. J.) Auditorium.

Union Shop Declared Illegal

The union shop, under which workers are required to become union members and to remain so under penalty of discharge, has been declared illegal by unanimous vote of the members of the National Labor Relations Board.

It is a hard blow to the C.I.O. and the A.F.L. but is logical and right because no American citizen should be discharged because he decided for himself that he did not wish to join a labor union and pay dues.

By the unanimous decision of the National Labor Relations Board more than 4,000 C.I.O. and A.F.L. labor contracts have been declared illegal and the ruling also cast a legal doubt on bargaining rights won by A.F.L. and C.I.O. unions during these periods, although this point was not specifically ruled upon by the board.

The right of a worker to join a union has been definitely established for some time and now the right of a worker to refuse to join a union has been given equal standing.

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U.S. MANUFACTURING
PLANTS AND
SALES OFFICES

From the rough blanks, bobbins, shuttles and other wooden yarn carriers are manufactured in U.S. plants located near the centers of textile manufacture, North and South. A sales office operates in each of these plants.



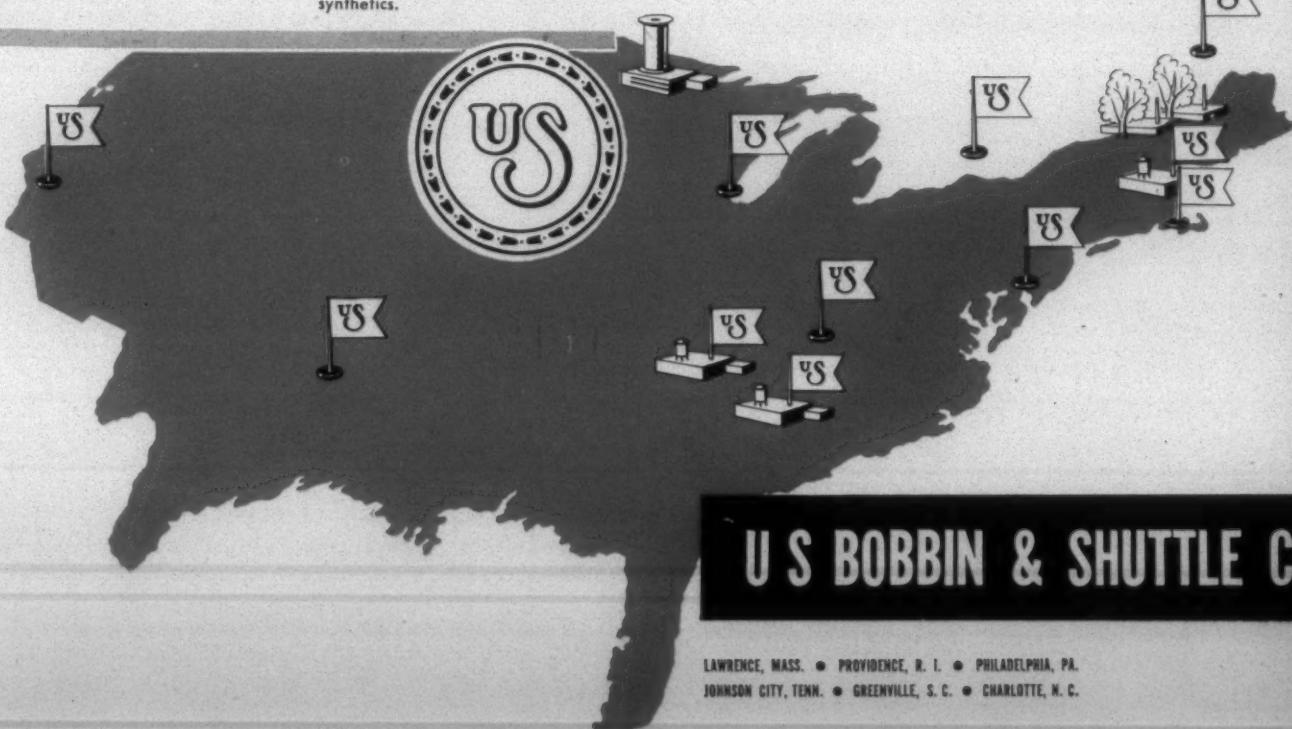
OTHER U.S. SALES
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Conveniently located in all other textile producing areas, U.S. separate sales offices and agents provide quick service to nearby mills.



PLANT FOR
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Acrometal Products, Inc., a U.S. subsidiary, produces the ACROPAK Metal Bobbins which are proving the effective answer to bobbin-killing synthetics.



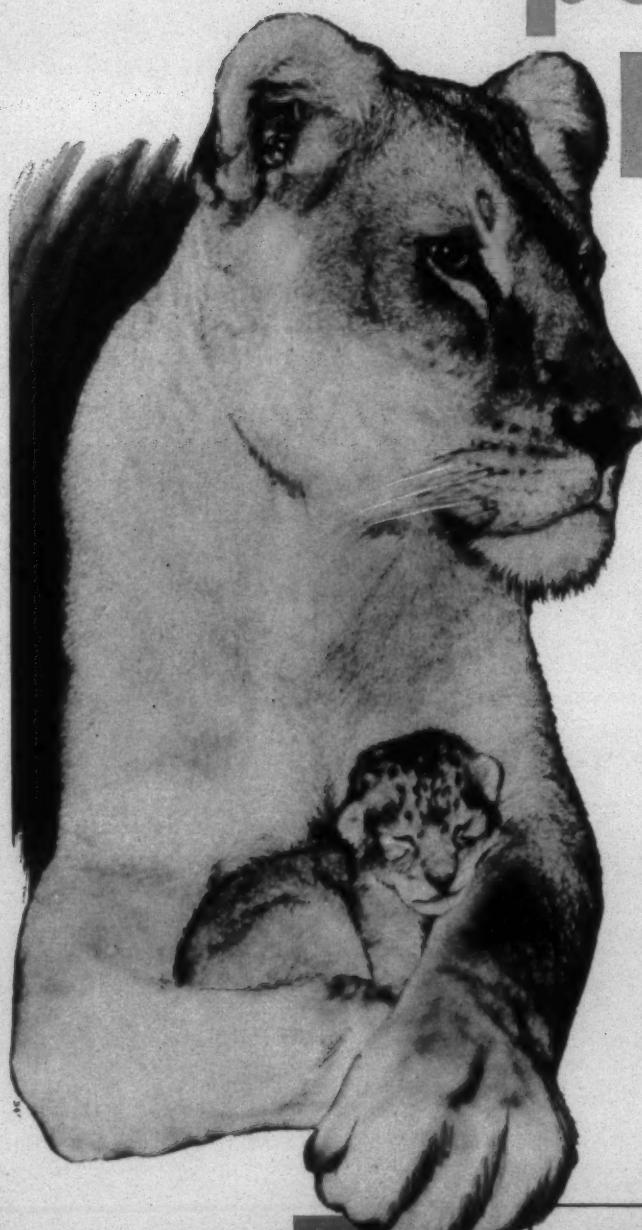
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positive protection



DILEINE CONC.

Effective Protection of Acetate Fibers Against Atmospheric Fading

Dileine Conc. has been developed to meet processing problems encountered in the dyeing of coarse cellulose acetate fibers and yarns for the carpet and wool industry.

A proper selection of acetate dyestuffs along with Dileine Conc. will result in dyeings that are highly resistant to atmospheric fading and sunlight. The slow exhausting properties of Dileine Conc. assures even distribution throughout the raw stock or heavy denier skeins.

Because of its stability to heat and slow exhausting properties, the use of Dileine Conc. requires no pre-treatment on conventional pressure dyeing equipment of acetate fibers ranging from 3 to 20 denier. This inhibitor has been used successfully for the dyeing of raw stock from a standing bath at high temperatures in a Hussong raw stock dyeing machine.

Dileine Conc. offers positive protection against atmospheric fading. Dileine Conc. assures rapid processing by even distribution throughout the material without sacrificing light fastness. Should you be interested, our technical service department would welcome the opportunity of submitting samples . . . custom-formulated . . . to meet your individual problems.



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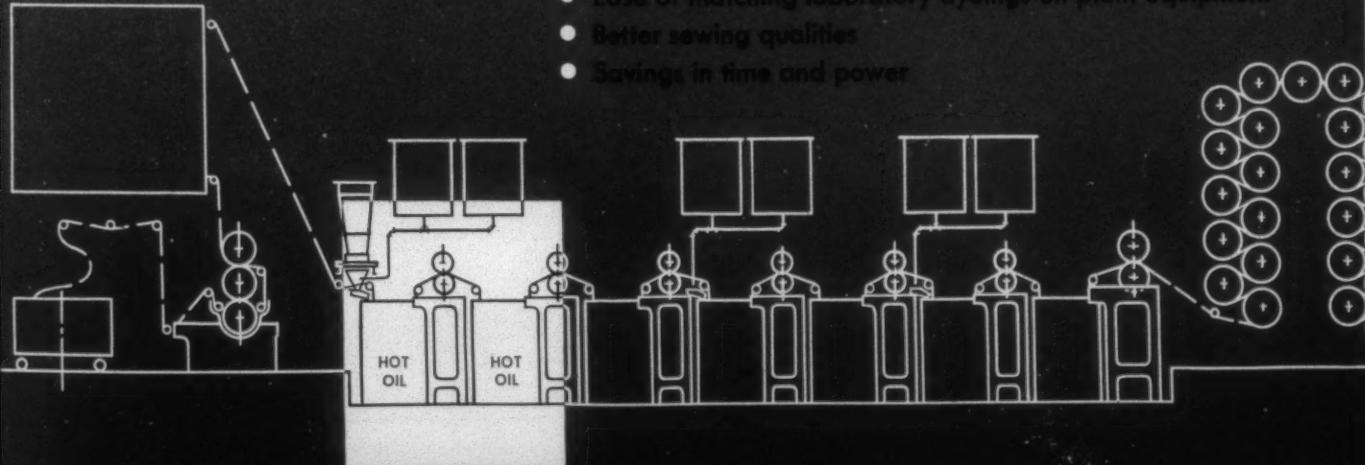
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the hot oil process

A revolutionary process developed
by the General Dyestuff Corporation
for dyeing cotton fabrics.

Many plant runs have established the advantages of
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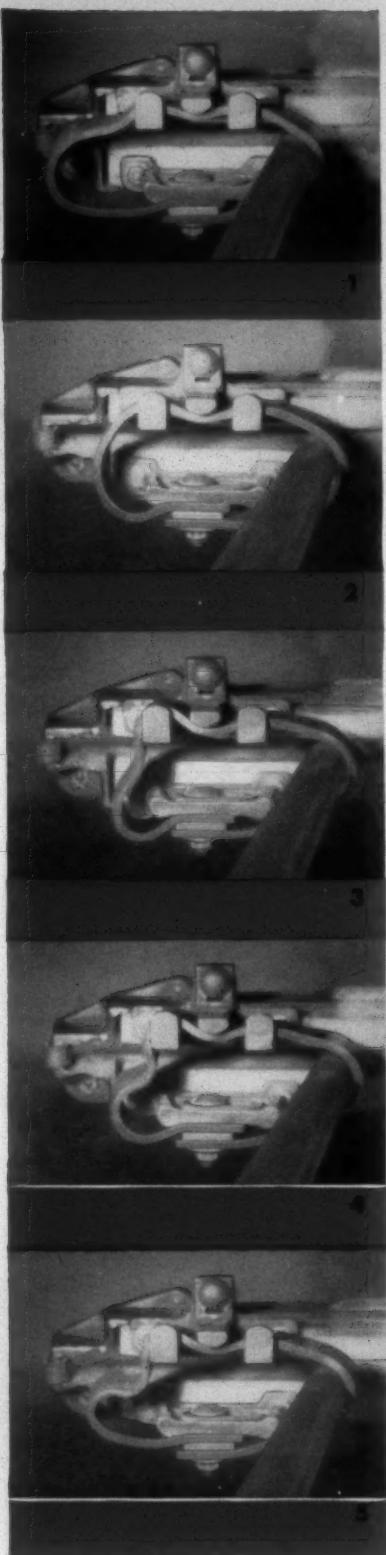
- Savings in dyestuffs and chemicals
- Complete control of shades
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- Ease of matching laboratory dyeings on plant equipment
- Better sewing qualities
- Savings in time and power



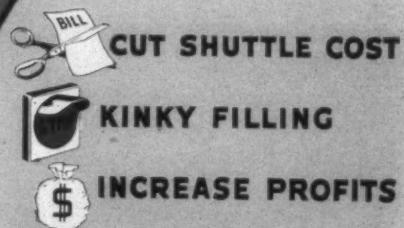
Because of the millions of yards dyed in both veil and
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Dyestuff Corporation's Technical Department is able
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For further information, write to our nearest office.

GENERAL DYESTUFF CORPORATION



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with Leather*



See how the Hairitan® Leather

STRAIGHT CHECK STRAPS assure smooth, positive shuttle throw

Look! See what happens to a straight check strap in less than a second! . . . as shown in this series of "frozen-action" photographs. In photo No. 1, the stick is approaching the bumper. It has already made contact with the loop of the strap and is drawing it through the fingers. In Nos. 2, 3 and 4 the stick is at the bumper and the strap is flexing back upon itself. In No. 5 the stick is starting to return and the strap soon will be completely flexed, ready to receive the stick and gently cushion its travel to the end of the lay.

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G&K-DIXIE Hairitan Orange Line Straight Check Straps are engineered from green hide to finished product. This *follow-thru* in manufacture gives you elasticity and resilience with minimum permanent stretch — assures *follow-thru action* which means more hours of loom service — lower cost per loom hour.

New catalog of G&K-DIXIE Textile Leathers proves the balanced follow-thru team performance of Orange Line Loom Leathers. Send for your copy—you'll be glad you did so.

Straight Check Straps



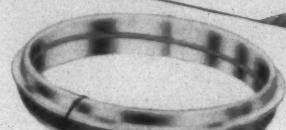
FAMOUS ORANGE® LINE TEXTILE LEATHERS

GRATON & KNIGHT COMPANY, WORCESTER, MASS.

• DIXIE LEATHER CORPORATION, ALBANY, GEORGIA Affiliate

Here are 4 possible ways to help your spinning and twisting

CHECK YOUR POSSIBLE BENEFITS FROM THESE DIAMOND FINISH RING DESIGNS



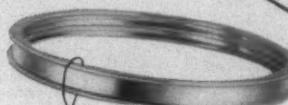
Auto-lubricated ring for spinning and twisting wool; also twisting cotton and rayon (heavier numbers), worsteds and paper.



Auto-lubricated ring for spinning and twisting worsteds; also twisting silk, synthetic yarns and mixtures, as well as the finer numbers of cotton.



Twister ring with grease retaining feature assuring an ample supply of lubricant to last several doffs. Widely used on cotton and synthetic thread constructions, tire cords, paper, etc.

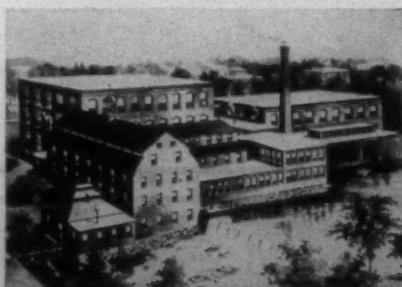


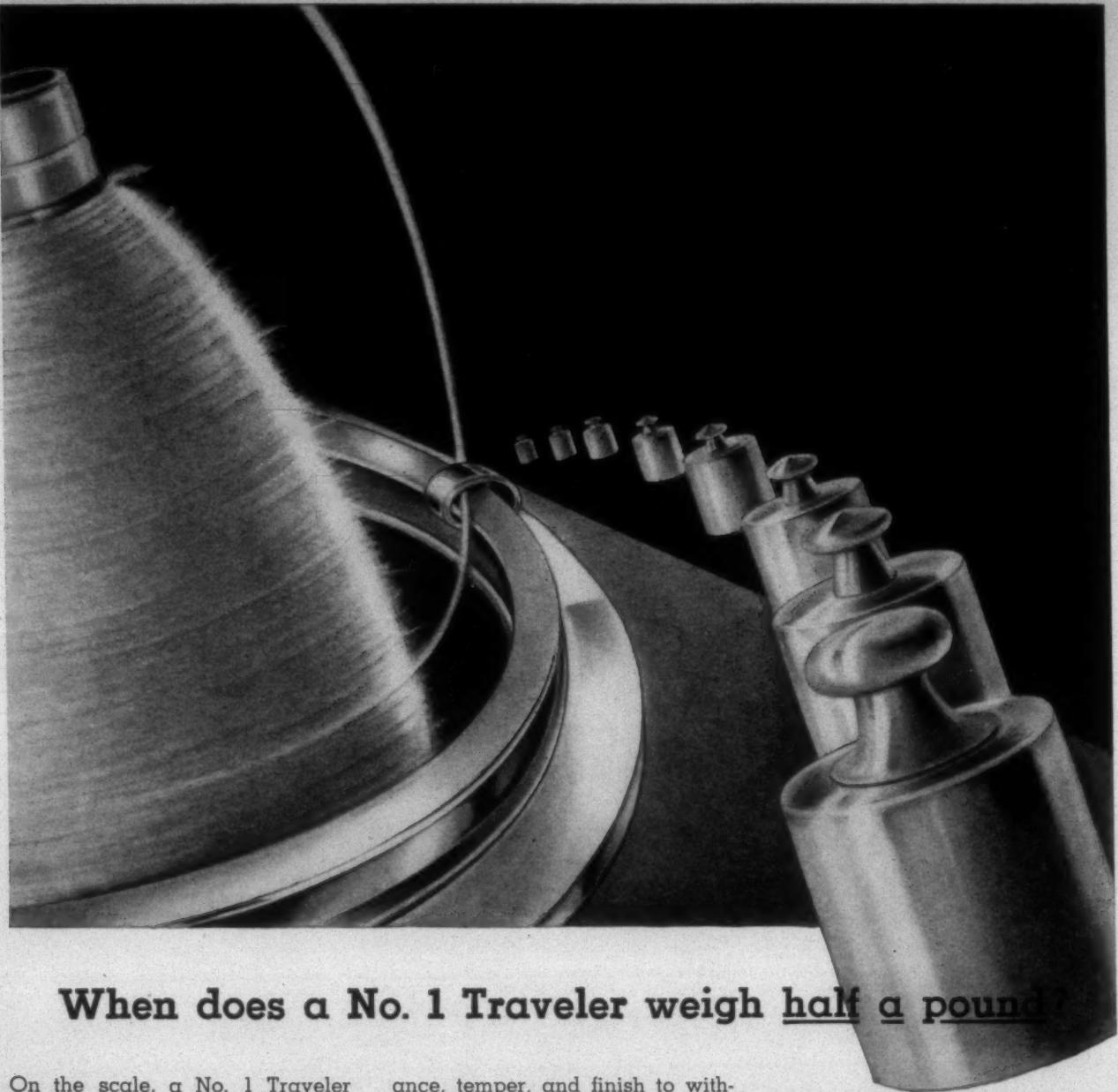
Style NS reversible flange spinning ring. A standard style that offers marked improvements when installed in place of worn-out rings that are hampering production.

WHITINSVILLE (MASS.)
SPINNING RING CO.
Makers of Spinning and Twisting Rings since 1873



World's Largest Ring Plant





When does a No. 1 Traveler weigh half a pound?

On the scale, a No. 1 Traveler weighs 1 grain, but riding the rings at today's high speeds, it exerts an amazing "pull".

By applying simple dynamic principles to known factors, the centrifugal force can be calculated. For a No. 1 Traveler operating at 9600 r.p.m. spindle speed on a 2½" ring, this force is 3250 grains—almost half a pound!

Consider how this intensifies conditions of wear and friction. You'll see how important it is to choose travelers of the proper bal-

ance, temper, and finish to withstand this punishment without interrupting the smooth flow of yarn production.

Victor Travelers are made to serve longer—to deliver more pounds of yarn per traveler—under the toughest conditions. That's why they are first choice of economy-wise mill men for more than 10,000,000 of today's hard-working spindles.

Whether you are running conventional fibers, synthetics or blends, talk to a Victor Service

Engineer about your traveler problem. Write, wire, or phone the nearest Victor office... for prompt service.

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a Step
ahead
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VICTOR
J Ring 
Travelers

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N. Y.

JULY, 1951

Avisco Develops Springier Rayon Staple for use in both Apparel and Upholstery

To meet the need for a springier and coarser rayon staple for apparel and upholstery uses, Avisco has developed an 8-denier crimped staple. This new product has a bouncy hand approximating wool 58-60's. It rounds out the rayon staple line by filling the vacant niche between 5½-denier, the coarsest apparel staple made up to now, and 15-denier carpet staple.

A Variety of Uses

Men's and boys' sweaters, bath mats, upholstery and drapery fabrics, all made entirely of 8-denier rayon staple, are in limited commercial production. Other suggested uses, both for 100 per cent and for blends, are in men's hosiery, slacks, suitings, blankets, hand-knit yarns, knitted and wooly-type neckwear and terry cloth.

Stiff, bristly effects are possible, similar to those obtained with mohair and coarse apparel wools. The new, 8-denier staple has been blended experimentally with mohair in frieze and plush fabrics, and the results have been highly satisfactory.

Greater Resiliency Achieved

Considerably more resiliency results from use of the new staple than may be obtained with 3- or 5½-denier rayon staple. The fabrics made with 8-denier staple cannot be approached with either finer rayon staple or with cotton. On the other hand, bath mats and throw rugs made with it are soft and luxurious.

Exceptional wearing qualities are indicated by preliminary wear and abrasion tests. Use tests are under way, but have not been completed.

Among the many advantages of the 8-denier rayon staple is that it can be spun on the cotton as well as the worsted and woolen systems.

The applications now in limited commercial use include yarns spun of 100 per cent 8-denier staple on all three systems.

Limited Production at Present

Production is on a pilot-plant scale, and probably will remain so for some time. Avisco is not seeking to market it now, since commercial production would have to

be at the expense of other sizes, the demand for which exceeds the company's productive capacity. The corporation is interested, however, in encouraging experimental work with limited quantities, as it believes the future possibilities of 8-denier rayon staple are great.

Inquiries are invited. Address: American Viscose Corporation, Rayon Staple Sales, 350 Fifth Avenue, New York 1, N. Y.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH

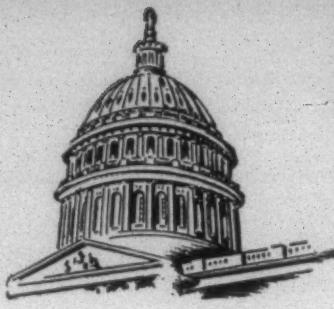
2 FABRIC DESIGN

3 FABRIC PRODUCTION

4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon
Sales Offices: 350 Fifth Avenue, New York 1,
N. Y.; Charlotte, N. C.; Cleveland, Ohio;
Philadelphia, Pa.; Providence, R. I.



WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

Truman forces have launched a high-powered drive for strong price controls after the Senate had scrapped many of the present controls in passing a renewal bill. But they admit the outlook is gloomy; "it couldn't be much blacker," said one Truman aide. The bill that emerges from the House and Senate, and goes to the President, will be very limited in scope, and expire shortly of its own limitation.

Truman has vastly overplayed his hand in trying to wring tighter controls from Congress. The complaint of business and industry is that they are not being used to aid the war effort, but to build up a permanent planned economy, managed out of Washington, and patterned after British Socialism. Congress has refused to accept Truman's propaganda.

Senator Taft's amendment to set up a new Wage Stabilization Board, with a majority of public members, will be pushed as a separate bill if it is removed from the controls law. Truman leaders say this amendment would cause another labor "walk-out" from Defense Mobilizer Wilson's office, followed by widespread strikes. But Congress refuses to accept this argument, too.

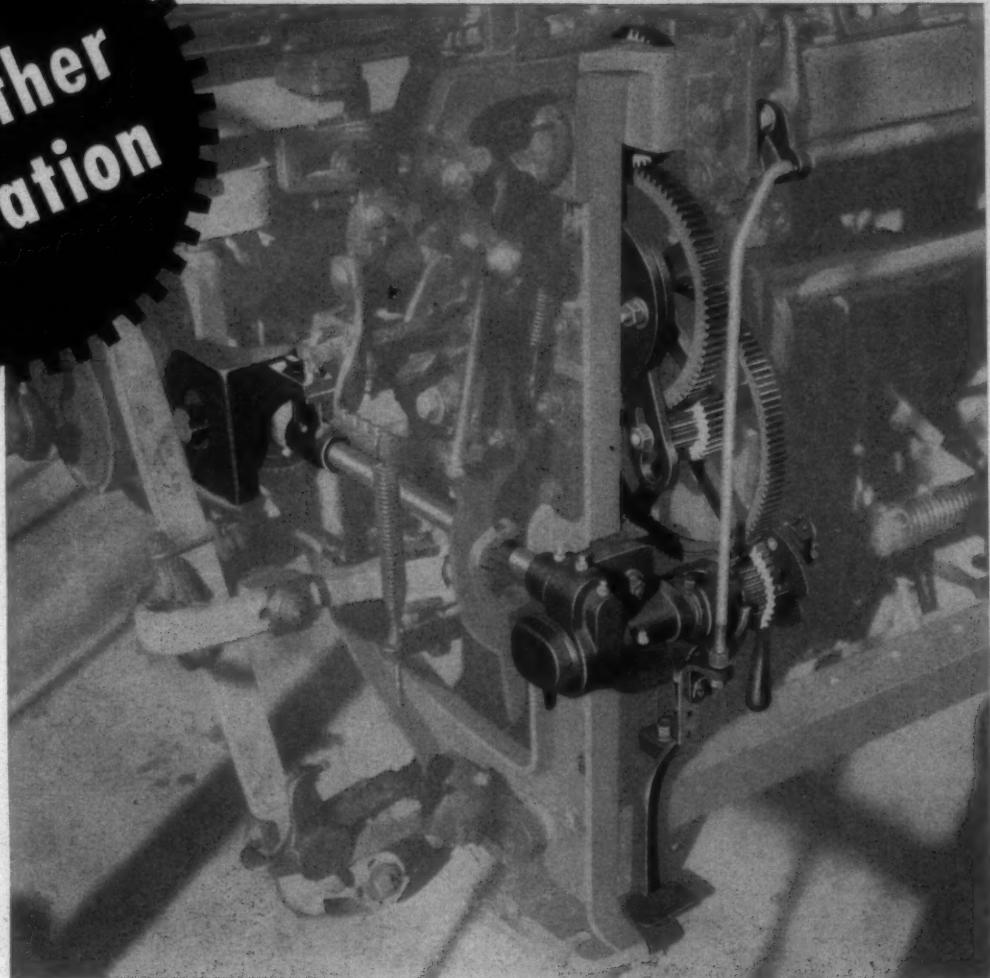
Truman and the union leaders are stunned by the failure of the public to rally behind continued price controls. They had hoped for great public outcries. Only a driblet of letters to Senate and House members asked for continuation. Everyone of the Truman-favored amendments failed to be accepted in the Senate-passed version of the bill.

Ramifications of a cease-fire in Korea are adding heavily to Truman's troubles with Congress. Foreign aid programs will be severely cut. Eisenhower feels privately that some European countries are doing dangerously little to strengthen their defenses, and squandering aid from this country. Truman spending will be sharply cut, and how much of a tax increase is voted is still uncertain.

The House jammed through a new tax bill for \$7.2 billion with the aid of a gag-rule, which prohibited amendments. Its leaders frankly confessed the House cannot write a tax bill except with a gag-rule, which bars amendments. The Senate Finance Committee will rewrite the whole bill, with sharp cuts.

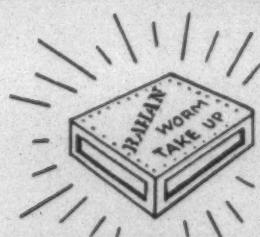
Congress is sadly behind in its work in this session, primarily because Truman is resisting any cuts in his spending proposals. Both houses are looking over every bill and proposal that comes from the White House, and then offering one amendment

For
Smoother
Operation



BAHAN Worm Take-Up Assembly for E, K and modified D model looms

Here's an assembly to replace ratchet type worm take-ups that provides smoother operation and consistently better fabric quality around the clock. The Bahan Worm Take-up assembly is complete with all parts and finest machine-cut gears throughout. Has dependable steel driving gear on cam shaft. Change gear stud supplied with floating bronze bushing (Change gears furnished for any standard ratio). Grease or oil lubrication as specified. Bahan will be glad to supply full details of this cost saving assembly for your consideration. Write today! Bahan can also supply individual take-up gears for all other loom models.



Supplied as a Complete
Packaged Assembly—
Ready for installation.

BAHAN TEXTILE MACHINERY CO., Inc.

DESIGNERS AND MANUFACTURERS OF RELIABLE TEXTILE MACHINERY FOR OVER 30 YEARS

Greenville, South Carolina

after another. Truman has sternly resisted any changes in his proposals, and Congress has determinedly gone about changing them.

Reduction of at least \$5 billion in this year's spending is being urged by Senator George before action is taken on a new tax bill. The chairman of the Senate tax writing committee said that with this cut, new taxes of not more than \$5 billion may be adequate to current needs. He favors reasonable defense building, but says sharp cuts must be made elsewhere.

A new plan by Oscar Ewing for hospital benefits for persons over 65, and their dependents, is getting a cold reception from the House Ways and Means Committee. It's another raid on old age pension reserves. The plan would start by paying \$200 million a year from present reserves, and gradually increase in amount in succeeding years.

Ewing is turning the heat on doctors and hospitals across the country to get behind his new benefit plan. But many House members say it would further dissipate old age reserves, and add another dose of New Deal Socialism to the old-age pension plan. A huge federal subsidy poured into the pension reserves would be necessary.

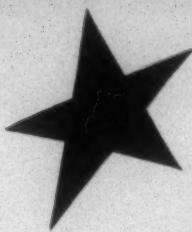
Truman says he wants a compulsory national health insurance program enacted, and has told his aides to prepare the arguments. He has made some conciliatory gestures to opponents, chiefly the American Medical Association, and told them if they will "devise a workable program nearly as good as his," he will accept it.

Food destruction, under buying surplus stocks to uphold farm prices, has cost \$627,721,359 since the outbreak of war in Korea. Figures were supplied by Senator Williams (R., Del.), who told the Senate it is ridiculous to impose price ceilings when food is made scarce, and prices raised sky-high, and black markets created, through the surplus buying plan.

Truman aides are organizing a "draft Truman in 1952" movement in the Mid-Western and Pacific Coast states. New Deal bigwigs are being urged to assert Truman will be drafted if he does not consent to run. The draft idea is based on the realization the Trumancrats do not have any one else to run, and big union bosses are demanding it.

There's increasing evidence on every side that Truman has decided to make another run next year. A few months ago he had decided not to, but absence of a good Trumancrat candidate is pushing him into it. If he does run, he wants it to look like a "draft movement," springing up spontaneously over the country.

With charges of waste and extravagance more frequent, Truman is increasingly sensitive to criticism, and resentful of the stinging attacks on his regime in Congress. He has been battered hard since MacArthur was dismissed, and feels keenly charges that he has bungled the Korean war, produced more inflation and sent costs of living soaring.



GOOD EXPERIENCE!



Dillard has been filling paper requirements of the South for a quarter century. These years of service have given us a wealth of experience—experience of great value to our customers. Our representatives have the knowledge and technical know-how to advise their clients in the proper use of paper and allied products. Call Dillard for service!

Experience counts... Dillard knows Paper!

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Twenty-five Years of Service and Experience

1951

CUT YOUR COSTS

With Modern Terrell Quill Cleaning
And Handling Equipment



The Type L Bobbin Cleaner has proved to be a very versatile machine. Originally used to remove continuous filament waste from automatic loom bobbins, it is now used for wool, worsted, spun rayon, and most all cotton yarns. (On some few cotton counts the Terrell Type K is the more efficient machine.)

Mills using the Type L report these advantages:

1. High Production
2. No Bobbin Damage
3. Seconds in Cloth Reduced
4. Lower Labor Costs
5. Lower Maintenance Costs
6. Simple and Flexible Adjustments

Let a Terrell field engineer study your quill cleaning and handling problems, and recommend the most practical equipment for your particular work. Make your request for this service to The Terrell Machine Company, P. O. Box 928, Charlotte 1, N. C.

Exclusive Sales Representative

The **TERRELL MACHINE CO., Inc.**
CHARLOTTE, N. C.

textile bulletin

VOL. 77

JULY, 1951

NO. 7

The S. T. A. Convention Of 1951

THE 1951 annual convention of the Southern Textile Association, held June 21-22-23 at Mayview Manor, Blowing Rock, N. C., resulted in the election of Joseph L. Delany, general superintendent of Joanna (S. C.) Cotton Mills Co., as president for the current year. The new president, who was S.T.A. vice-president during 1950-51, succeeds A. Ray Marley, superintendent of the Erwin Mills, Inc., Plant No. 2 at Erwin, N. C., who in turn automatically assumed the position of association executive secretary. David A. Purcell, superintendent of the Fieldcrest Mills blanket plant at Draper, N. C., was advanced from chairman of the S.T.A. board of governors to the position of vice-president, and Thomas I. Stafford, production manager for Clifton (S. C.) Mfg. Co., was elected to the chairmanship.

Chosen for three-year terms on the board of governors were T. J. Willis, superintendent of the Mathews Plant of Greenwood (S. C.) Mills; H. Cleon Estes, superintendent of the Pacific Mills plant at Rhodhiss, N. C. (who had just completed a one-year term on the board); J. C. Godfrey, superintendent of Calhoun Mills at Calhoun Falls, S. C. (who served as last year's chairman of the South Carolina Division); and J. R. Meikle, general superintendent of Rosemary Mfg. Co. at Roanoke Rapids, N. C. (immediate past chairman of the Eastern Carolina Division). The three

new board members succeed J. T. Chalmers, superintendent of Orr Mills at Anderson, S. C.; Sherman R. Basinger, superintendent of the White Oak Plant of Cone Mills Corp., Greensboro, N. C.; and Mr. Stafford.

Continuing of the board of governors are (for one more year): F. D. Lockman, Jr., of Springs Cotton Mills, Fort Mill, S. C., Arthur S. Jarrett of Highland Park Mfg. Co., Charlotte, N. C., James B. Lybrand of Union-Buffalo Mills Co., Buffalo, S. C., and J. B. Powell of Monarch Mills, Lockhart, S. C.; and (for two more years) James A. Chapman, Jr., of Riverdale Mills, Enoree, S. C., Edward C. Horner of Enterprise Mfg. Co., Coleridge, N. C., Walter Vincent of Dan River Mills, Inc., Danville, Va., and J. L. James of Erwin Mills, Inc., Cooleemee, N. C.

Four addresses (complete texts of which will be found on following pages), plus the remarks of Retiring President Marley, were presented at the Friday and Saturday morning business sessions. The speakers and the titles of their papers were: Guy B. Arthur, Jr., president of Management Evaluation Services, Inc., Toccoa, Ga., "How Supervisors Can Use Their Employees' Opinions"; Peter M. Strang of Whitin Machine Works, Whitinsville, Mass., "The Theory of Carding"; William H. Ruffin, president of the National Association of Manufacturers and president of Erwin Mills, Durham, N. C., "The Strength of Freedom"; and David



Southern Textile Association principals pose following the final business session. Left to right, seated: John M. Reed, J. C. Godfrey, J. B. Lybrand, J. L. Delany, D. A. Purcell, T. I. Stafford, A. R. Marley, Marshall Dilling and E. C. Horner.

Standing, same order: J. R. Meikle, Walter Vincent, Smith Crow, H. C. Estes, David Clark, Arthur Jarrett, J. A. Chapman, Jr., J. L. James and J. B. Powell.

Clark, editor of *TEXTILE BULLETIN*, Charlotte, "The Textile Industry in Europe."

Social flavoring of the convention was provided by a buffet supper Thursday evening, a reception sponsored by the Associate Members Division and the annual banquet Friday night, and an entertaining floor show furnished by the Associate Members both evenings. Recreation Friday afternoon consisted of a bingo contest run by Messrs. Marley and Stafford, and the annual golf tournament, which was managed by W. S. Terrell of Terrell Machine Co. assisted by James D. Sandridge of Du Pont.

In the golf tournament, Dee Trammell, overseer of weaving at Dora Yarn Mills, took top honors in the mill men's division with a par 72, and was awarded a set of irons. Mr. Trammell also will have his name engraved on the handsome Corn Products Sales Co. bowl which he may retain for a year, and received a replica of the bowl as a permanent prize.

Second low gross in this division went to S. L. Stack, superintendent of Father George Mill, with a 74. Low net honors were won by R. M. McCrary, superintendent of Carolinian Mills, who shot a 70 and received a set of woods. E. G. (Gus) McIver, Jr., assistant to the general manager of Erwin Mills, and Tom Hollingsworth, night superintendent of Consolidated Textile Corp., tied for second low net with 71s. Bill Pittendreigh, superintendent of Riegel Textile Corp., led all the mill men in consuming the greatest number of strokes which finally added up to 115. Under the Callaway handicap system, Sam Snoddy, manager of Aleo Mfg. Co., earned a 32 handicap, the highest in this division.

In the Associate Members Division of the tournament, Arlo Martin of Iredell Chemical Co. and Henry Goodwin of Steel Heddle Mfg. Co. tied for low gross with 71s, and in a toss of a coin Mr. Martin was the winner of first prize, a set of woods. W. E. Smith of Borne, Scrymser Co. fired a 68 for low net honors. Charles Kelley of Borne, Scrymser, John Bryant of Bryant Chemical Co. and Jim Isom of Olney Paint Co. tied for second low net with 70s. R. Y. McCarter of Gates Rubber Co. led the high scorers in this division with a gross 119, and Bob Adams of McLeod Leather & Belting Co. had the highest handicap, a 42.

All players mentioned received valuable prizes, which included, in addition to the sets of woods and irons, a leather traveling bag, two cashmere sweaters, a rain jacket, and several dozen golf balls. Bingo prizes, selected by Mr. Marley and furnished by the S.T.A., consisted of numerous household articles.

At a breakfast meeting of the board of governors June 23, S.T.A. Secretary-Treasurer James T. McAden, Jr., presented the following suggestion from John M. Reed, 1950-51 chairman of the Associate Members Division, and Junius M. Smith, secretary of that group:

SOUTHERN TEXTILE ASSOCIATION

Sept 21 1909

Received of *Marshall Dilling*

One

DOLLARS

for dues to *Sept 14th 1910*

E. E. Bowles Secretary-Treasurer

This is a reproduction of the Southern Textile Association dues receipt made out to Marshall Dilling in 1909.

As officials representing the Associate Members Division of the Southern Textile Association, we respectfully make the following suggestion to the Board of Governors of the Southern Textile Association—

That, in order for as many mill men to be accorded hotel accommodations during the annual conventions of the Association, the secretary-treasurer of the Association be instructed to set up a practical priority system for room reservations. It is suggested that the mill men members of the Association be notified officially, by mail, of the place and time of the annual convention, well in advance; that the mill men members be advised that beginning with date of receipt of said notice that they will have four weeks to secure room reservations at the convention hotel, during which period no reservations will be accepted from associate members by the hotel management. At the end of this period, all remaining accommodations will automatically become available to anyone wishing to attend the convention, regardless of division affiliation. The Associate Members Division emphatically acknowledges that a representative and large attendance by mill men is necessary for the success of any annual convention.

The board of governors agreed to this suggestion, and passed an appropriate resolution. Officials of the association are now in the process of making arrangements for the annual convention, and plans for it will be worked out in detail at a meeting of the S.T.A. board at 11 a.m., Saturday, Aug. 11, in the Charlotte (N. C.) City Club.

* * *

At the final business session Marshall Dilling, who has been active in association affairs since the founding of the organization, introduced and paid tribute to David Clark. Mr. Dilling, a past S.T.A. president, executive secretary and treasurer, exhibited a receipt for S.T.A. dues which he paid in 1909.

* * *

The S.T.A. Past Presidents' Medal was presented to Mr. Marley by the newly-elected president, Mr. Delany. Mr. Marley is now the fourth living Erwin Mills executive who wears this medal.

* * *

From the Office of the Quartermaster General in Washington, the Army sent to Mayview Manor a display of textile items and garments made therefrom, need for which is considered critical at this time. The fabrics were inspected by a number of interested mill men.

* * *

In the election of officers of the Associate Members Division, Vassar Wolley of Seydel-Wolley & Co. was elected to the chairmanship, and Alden Simpson of Corn Products Sales Co. was made vice-chairman. John M. Reed of Ashworth Bros., immediate past chairman of the division, automatically becomes chairman of the Associate Members Division council for the ensuing year, and Junius M. Smith of *TEXTILE BULLETIN* was re-elected secretary.

The following were elected to serve two-year terms on the council to succeed the five members whose terms had expired: J. E. Spivey, The Textile Shops; Richard W. Dunn, Whitin Machine Works; John Foard, Ragan Ring Co.; W. W. Watt, Jr., Abington Textile Machinery Co.; William Morgan, Dayton Rubber Co. Frank Swords of Veeder-Root, Inc., was elected to fill out the unexpired term of George Logan of the same company, whose headquarters are now at Hartford, Conn. Carryover members of the council are Robert C. Rau of Clinton Foods, Inc., James D. Sandridge of Du Pont, Ernest Dodge of Foster Machine Co. and Paul Thomas of Moreland Chemical Co.

* * *

Contributors to the S.T.A. Associate Members Division

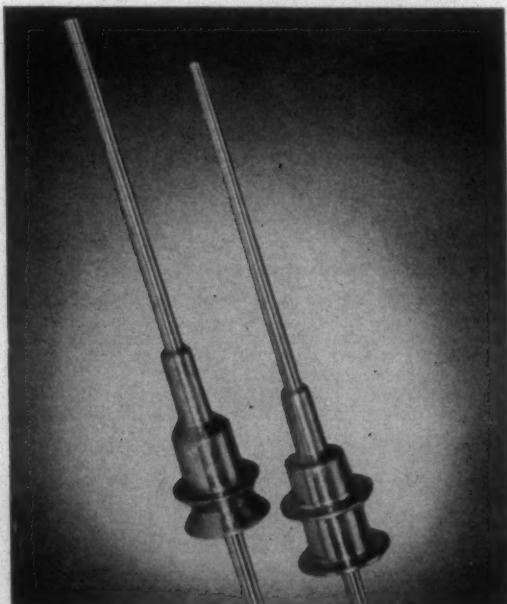
New Fluted Rolls

Now Available at Substantial Savings

New automatic machinery recently installed makes it possible for Southern Spindle and Flyer Co. to manufacture FLUTED ROLLS for spinning and flyer frames at LOWER costs. We pass these savings on to you.

Compare our prices for all types of NEW fluted rolls with

the cost of reworking OLD rolls. You'll be pleasantly surprised at the small difference in cost. All of our new fluted rolls are made with screw necks. They're precision made of the highest grade steel and are held to close tolerances. They can be finished also with hard chrome plating.



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Guy B. Arthur, Jr.

YOU fellows are certainly doing a magnificent job in getting out badly needed textile materials to the Armed Services. You did it during World War II and are again helping to supply our fellows in Korea. With all the trouble that seems to be brewing throughout the world you have a tremendous job ahead of you.

Actually I am not nearly as worried about some foreign power waging war on us as I am with what's going on within these United States. We have always been able to lick those countries who were jeopardizing the American way of life. I am not so sure that we can overcome the many forces within our country which are bringing it around to a Socialistic form of government. Controls are being imposed upon the free enterprise system almost every day on the basis that they are needed to help win the war. We must remember, however, that once controls are imposed it is extremely difficult to get them removed from our statute books. Many of those controls which were adopted during World War II are still in effect. Personally, I believe that many of these are being written into law as a further means of assuring government control over all commerce and industry in these United States. It may well be that those in power do not realize what they are doing but I am sure that some less scrupulous characters who are advising them know full well what the eventual outcome will be.

There seems to be one sure way to correct this tendency toward Socialism in the United States. That is to make the American public and particularly the working people better acquainted with our free enterprise system and its many advantages. In order to do this supervisors must gain the confidence of their employees. Only then will employees listen to supervisors as well as they will to those people who are promising everything for nothing. The message I bring you fellows is one simple way to increase this confidence and bring about real leadership on the part of supervisors in American industry.

What Is Meant by Employee Opinions

To illustrate what I mean by employee opinions all you have to do is to ask me what I think of a given subject. Immediately I am flattered that you want my opinion and my ego bubbles. From then on I am quite free with my comments regarding the subject in question. The same applies to almost all human beings in that you can get their opinion by merely asking for it. Unfortunately, we do not



Among those heard at Blowing Rock, left to right: A. R. Marley, David Clark, J. L. Delany, Marshall Dilling and Guy B. Arthur, Jr.

use this method nearly as much as we should in bringing about better employee relationships.

Supervisors can easily get the opinions of their employees if there is confidence on the part of the employees in the supervisor. Confidence can be built by doing a good supervisory job. Some of the basic elements of such a job are listed below where we talk about how good a job we are doing in supervising people. Confidence can also be built by giving employees a sympathetic ear, by soliciting their opinions, and by doing something about the ideas, suggestions, and complaints of employees.

Once this confidence is built you can get opinions by merely asking for them. You can get the suggestions, gripes, or criticisms of your employees. You can use all of the brains you are paying for rather than just those few who are in supervisory-management positions. Let me remind you that any person working on a given job probably knows more about how it can be improved than any other person in the organization. For this reason it is very important that we solicit the opinions of our employees. We can improve quality, increase production and reduce waste by carefully using all of the suggestions given us.

When we ask questions of employees they must be impersonal questions. We must never put an employee on the spot or embarrass him. If anything, we should flatter him with our questions and give him credit for having something in the upper story. Next, we must also solicit opinions from a number of employees so as to get varying viewpoints and to check up on what any one employee may tell us. This is extremely important if we are to get a good cross section of opinions.

As mentioned, we must always do something about the suggestions given to us by employees. This may even mean that the supervisor will have to change his behavior. Whatever is needed to improve the employee relationships, to build confidence, and to create understanding will be repaid many times if this technique is followed.

The procedure is very simple in that it consists of sitting down with each employee about once every 30 days. You usually start off by telling him what you like about his work. Next you tell him about those things you do not like which he is doing. Finally, you ask him what his views are regarding himself and the department. This little procedure satisfies one of the greatest desires of the average employee in that it tells him just exactly how he stands with his boss.

After you have covered the above ground, the next step is to find out the answers to some particular questions you have in mind. You do this by asking him not what he thinks about a given subject, but rather by asking what he thinks the employees in his department believe about a given subject. For example, if you wanted to find out what is causing waste in your department, you would ask a number of different employees this same question, "What do you think the employees in this department feel is responsible for the high waste record?"

You may ask why all of this is so very important and I believe it can be summed up very simply. First, we all must turn out more production per man hour. In order to do this we need to utilize all of the intelligence we have at our disposal including that of each of our employees. Second, we must stop outside organizations from influencing our employees regarding the American way of life and the free enterprise system. In order to do this we must develop

more confidence between employees and supervisors than is possible for any outsiders to generate. Only then will it be possible for supervisors to give employees the facts of life regarding the many benefits of our way of life and have the employees believe in these advantages.

Employee Opinion Surveys

Many companies ask specialists to make employee opinion surveys within their organization. They do this for a number of different reasons but primarily as a means of determining what things they need to do to improve employee relations, confidence and understanding. The specialists can usually obtain information which is most difficult for the average management to get. Employees have confidence in the anonymity of these outside opinion surveys. They do not sign their names and no one ever knows just who said what. Once they have filled out a very simple questionnaire, the employees drop them in a ballot box along with all others, and many times know that this ballot box full of questionnaires is sent on to some distant point for analysis.

Companies get a detailed report regarding the opinions of their employees, and from this know what corrective action needs to be taken in order to develop a higher degree of confidence and understanding. Sometimes the companies use these employee opinion surveys as a basis for learning what detailed questions should be asked their employees by their supervisors. In almost every case the supervisors' opinions are asked first. This is an important step since confidence between supervisors and employees will seldom be obtained unless the supervisors themselves feel they are being treated properly by management. Many companies talk about having their supervisors as a part of the management team but do not take the elementary steps which are needed to bring about this feeling on the part of supervisors. All the more reason why the opinions of supervisors are important to top management.

Usually such a survey results in many good ideas as to how supervisors may be made more effective. Overseers and second hands usually welcome this opportunity since it enables them to grow and progress in the organization. Once they know what their strong and weak points are



Unexpected and unprepared non-professional entertainers during the floor show Friday night were Smith Crow (at left), vice-president of Erlanger Mills, and John Foard (partially hidden by song leader's arm) of Ragan Ring Co.

they can do much to improve themselves under the proper guidance.

Some surveys are also used to learn the value of the personnel programs which are being carried on by the company. For example, the company may learn how much the employees know and understand about the welfare and benefit plans. The company may also find out how effective the various media of communications are in their organization. They may also learn how effective the training programs are which they are conducting.

The surveys are made by developing a set of tailor-made questions to fit each particular situation. These questions must be simple, readable and reliable. The surveys are conducted by having small groups of 12 to 15 employees fill out the questionnaires. They are given help by the specialists so as to be sure each and every one of them understands every question they are answering. Finally, a report is given to top management which makes it easy for them to take whatever corrective action is necessary. It has been found that follow-up visits on the part of the consultant are necessary to help both management and the supervisors to get the most out of such a survey.

Value of Employee Analysis

While the employees' opinions may be obtained in either of the two ways mentioned above it is important that something constructive be done about the resulting information. Probably the best thing that is being done today in the South with employee opinion surveys is that overseers and second hands are being given a self-appraisal which enables them to improve in their own organization. Questions can be designed to determine how well supervisors are supervising. These questions cover many different phases of the overseer's or second hand's job, but basically the following should be included: (1) the Golden Rule; (2) how we stand; (3) how good we are as instructors; (4) are we creating a feeling of favoritism?; (5) how good are we at disciplining employees?; (6) are we creating understanding?; (7) is there freedom of speech among our employees? (note that most of the employees we have contacted do not feel that they are free to speak their mind where they work); (8) do employees have confidence in us?; (9) do we handle grievances promptly and fairly?; and (10) do we praise employees for good work?

As mentioned above, the most common use is for the self-improvement of supervisors. Another common plan is to arrange group supervisory development conferences. Such conferences enable the supervisors to discuss the strong points and weaknesses brought out by the survey so they may all contribute their ideas as to how they may do a better job. Such conferences have been extremely effective in bringing about better supervision. Another very common use of employee opinion surveys is to develop teamwork within a group of employees. Special questions are asked to bring out the lack of teamwork. Then steps are taken to correct those weaknesses disclosed by the survey. The result of this is that better production, quality and lower waste results from the better teamwork.

We should all make greater use of employee opinions. First, to help ourselves; second, to help our company; third, to help our employees; and most important of all, to build a spirit of confidence that will secure the maintenance of the American way of life.



Peter M. Strang

THE principles of carding in use today are the same ones that were developed and used in England some 200 years ago. No change of major importance has occurred in the top flat card since the adoption of revolving flats about 1890 after many years of trial. While revolving flats did reduce the labor required to process a given amount of cotton, they did not necessarily improve the quality of carding. Some old experienced carders have claimed that better work was produced in cards with stationary flats.

The lack of an adequate understanding of what occurs in a card may be an important reason why no changes have been made in the machine. In discussing the card, Balls has said "This machine seems to me the most mysterious thing in the mill, even more so than the process of drafting. The explanations I have read and heard concerning its action differ only in the degree of their improbability."¹ The recent introduction of solid metallic clothing on carding cylinders has discredited one theory that involved a knee action and flexing of the wire points.

The early theories of carding must be considered inadequate to explain such questions as (1) Why does the cylinder of a card load during operation? (2) Why does the doffer load during operation? (3) Why are accurate settings necessary between cylinder and lickerin, cylinder and flats, cylinder and percentage plate, cylinder and doffer and cylinder and under screens? (4) Why does a cylinder speed of 165 r.p.m. necessarily give the best results? (5) Why does the centrifugal force of the cylinder not throw the fibers back on the lickerin or on the flats? (6) Why are present types of card clothing satisfactory? (7) Why does a card operate when its cylinder is covered with non-flexible clothing which is similar to the covering of a lickerin. (8) Why does a continuous stripper on a cylinder cause a card to operate satisfactorily, in some instances, even though it tends to dull the wire on the cylinder?

While there are many other questions concerning the operation of cards which require explanation, these eight questions illustrate the need of a carding theory which is based on scientific principles. A theory adequate to answer these questions and at the same time sufficiently comprehensive to include the empirical knowledge gained by the operation of many machines over a century is difficult. For clues as to such a theory, the functions of a card, the prior art of carding, and the use of cards in different parts of the globe were studied. The functions generally ascribed to the revolving top flat card are (1) separating fibers from one another, (2) parallelizing the fibers, (3) producing a sliver with a uniform weight per yard for use in the next process, and (4) cleaning the fibers. Indications are that the separation of fibers from each other and the production of a sliver of uniform weight per yard originally were the features of carding which received the greatest attention. In the card, individual fibers are separated from small aggregates of entangled fibers and are then collected into a sliver. While today the lickerin is considered the most effective cleaning

unit used in cotton processing, this member was added to the carding engine to speed operation and eliminate the need of feeding the machine by hand. The original purpose of the lickerin was to deliver fibers mechanically to the cylinder at a uniform rate. In the development of the lickerin, it was found that additional cleaning of the stock in process could also be obtained. For many years the waste removed by revolving top flat cards was considered to consist mostly of short fibers. Several analyses have disproved this belief and have shown that the staple length distributions of the flat strips and of the cylinder strips were but slightly shorter than the staple length distribution of the original cotton. While the staple length distribution of the lickerin, doffer, and fly wastes indicated a larger amount of short fibers than the original cotton, the total quantities of these wastes were small. Since the largest amount of waste occurred in the flat strips, it is not surprising to find that the original cotton and the final sliver had a very similar fiber length distribution.

Study of the literature indicates that the settings of a card have been determined empirically. The machinery builders and the card clothing manufacturers recommend rule of thumb settings which produce satisfactory results in ordinary practice. No reasonable scientific explanation is offered as to the distances required between the various parts. The recommended setting of the percentage plate from the cylinder usually is accompanied by a comment such as "Within limits, the closer the top edge to the cylinder the lower the amount of strip taken out by the flats."² The recommended settings of the screen under the cylinder are accompanied by a statement such as "Controls air current—and the production of fly. If set too close, screen may become loaded with wasty short staple. An unduly close setting at the front can cause an uneven web with ragged selvages. Settings which are too open, cause loss of white cotton and good staple."²

It is evident that air currents which originate in the carding engine are known to affect the operation of the machine. It is axiomatic that the air surrounding the carding engines is subject to changes in pressure, temperature and humidity. Investigation indicates that the ambient air pressure is not an important factor in the carding operation since satisfactory work is obtained with the same speeds, settings and accessories whether the carding is done at sea level, at an elevation of 1,000 feet in Atlanta, Ga., or at an elevation of over 8,000 feet in LaPaz, Bolivia. On the other hand every practical carder knows that temperature has a decided effect on the operation of these machines. Several carders have stated that very unsatisfactory work is obtained when the room has a temperature less than 50° F. Humidity is also an important factor in carding and a relative humidity of 50 to 55 per cent is generally recommended.

In very cold card rooms and during hot dry weather in rooms with inadequate humidification, static hampers the carding operation. Static seems to be generated by inter-fiber friction but is not necessary for the process. The use of steam pots in cold card rooms, the application of static eliminators on machines used for types of fibers which tend to produce static, and the introduction of controlled humidity, indicate that static is a nuisance which can be overcome and eliminated.

Early in this study attempts were made experimentally to control the sign and amount of a static charge on the points of card clothing covering a metallic cylinder in order to

determine whether static produced a force necessary for carding. It was found that fibers which were brought in contact with the charged clothing could not be carded or controlled satisfactorily on present equipment. After these experiments and after observing the satisfactory operation of cards in which static had been eliminated, the conclusion was reached that static does not produce a force which is requisite in the carding of fibers on existing machines.

Study of the physical properties of air indicates that viscosity is one of its properties which is independent of pressure but which does change noticeably with temperature. Changes in relative humidity do not effect the viscosity of air materially in the range of temperatures in which carding normally occurs. The International Critical Tables show that the coefficient of viscosity of air increases 8.6 per cent for a rise in temperature from 0° C. to 30° C. Other things being equal, in present practice better carding is obtained when air has a high coefficient of viscosity.

Prandtl's Boundary Layer Theory concerning the flow of gases and fluids furnishes a basis for the correlation of fluid dynamics and textile carding. Prandtl has established that in the flow of fluids around a rotating cylinder, the velocity of the fluid at the surface of the cylinder and the velocity of the surface of the cylinder are the same. Goldstein³ gives the following description of a boundary layer: "When a fluid flows past a fixed solid boundary the fluid immediately in contact with the wall is at rest. It is, however, a matter of common observation that, for a fluid of small viscosity like water or air, if the distance the fluid has traveled along the wall is not too long, then velocity rises rapidly from zero at the wall to its value in the main stream, the rise taking place within a thin layer of fluid next to the wall."

Glauert⁴ states that "In a viscous fluid the relative velocity at the surface of the body is zero and the body is surrounded by a narrow boundary layer in which the velocity rises rapidly from zero to a finite value."

Since the cylinder of a carding engine may be considered to rotate in a reservoir of still air, according to the Boundary Layer Theory, a series of concentric layers of air of infinitesimal thickness surround the cylinder. The velocity of the layer on the cylinder will be zero relative to the cylinder but will be the same in relation to the stationary reservoir as the surface velocity of the cylinder. The velocity of each successive layer becomes less as its distance from the cylinder increases, until a layer is reached in which the velocity is zero. Reasons begin to appear to indicate why accurate settings are necessary on a carding engine, when it is realized that the cover plates, the top flats, and the screens form a perimeter to control the boundary layer of air which surrounds the cylinder as it rotates. At this perimeter, which is at the surface of the cover plates, at the base of the wire in the flats, and at the surface of the screens, the velocity of the air will be zero. Because the strata of air which surround the rotating carding cylinder have such different velocities, the fibers which are introduced into this boundary layer are subjected to a terrific force caused by the shearing of the air.

The maximum depth of the boundary layer of the air in which carding occurs, appears to be the distance between the base of the wire on the cylinder and the base of the wire on the flats as shown in Fig. 1a. Since the velocity of the air at the base of the cylinder wire is equal to the velocity of the cylinder at this location, and the velocity of

the air at the base of the flat is zero, there is a velocity gradient across the distance d . A velocity distribution, as Fig. 1b, which is shown by Prandtl and Tietjens⁵ to occur between a moving and a stationary plate, may be used to represent this gradient when the action of the wire on the air is overlooked. Experience indicates that due to the wire in the card clothing the velocity distribution will more nearly resemble the type shown in Fig. 1c with the maximum change in velocity occurring between the wire tips of the cylinder and the flat.

A comparison of the magnitude of the centrifugal force which tends to throw fibers from the surface of the cylinder, with the magnitude of the shearing force indicates that the shearing force produces a force component to move fibers to the surface of the cylinder.

The centrifugal force on a fiber may be calculated according to the formula

$$F = \frac{w''^2 N^2 r}{g 900} \quad (A)$$

where w is the weight of the fiber, g is gravity constant, N is the number of revolutions per minute, and r is the radius.

The force on a fiber caused by air shear may be calculated according to the formula

$$F = \frac{\mu V A}{d} \quad (B)$$

Where μ is the coefficient of viscosity of air at the given temperature, V is the velocity, d is the depth of the boundary layer of air, and A is the external area of the fiber.

Of course one system of units, for example the centimeter-gram-second units, should be used throughout when a comparison is made. For ease in computation cotton fibers are considered to be rectangular rods 21x10 microns in cross section and 2.54 centimeters (one inch) in length with a density of 1.55. A top flat card is considered which has a cylinder 50 inches in diameter, a speed of 165 r.p.m., and a .009-inch setting between the points of the wire on the cylinder and flats. The over-all thickness of the card clothing is considered to be three-eighths of an inch and the working depth of the wire one-fourth of an inch. Air has a coefficient of viscosity of $1,808 \times 10^{-7}$ poises at $20^\circ C$. The difference in magnitude between the centrifugal force and the air shearing force on fibers indicates the tremendous importance of the shearing force in the carding operation.

It is generally believed that a top flat card will not operate

successfully at a cylinder speed less than 135 r.p.m. and experiments bear out this belief.⁶ While lowering the speed of the cylinder reduces the air shearing force, an experiment was considered in which a card would be operated at normal speeds in a room first filled with normal air and then filled with gas having a coefficient of viscosity about one-fourth that of air. In this way a comparison could be made of carded material produced under the same conditions mechanically but with significantly different forces of air shear. Investigation showed that those gases which have a coefficient of viscosity low in comparison with air are very explosive and the experiment was abandoned.

The shearing action of a viscous fluid upon fibers was demonstrated by the following experiments: A drum about 18 inches in diameter was filled to a depth of three feet with water at $100^\circ F$. About one-half a pound of wool fibers were cut so that the maximum length was not over five-eighths of an inch, and then thrown into the liquid. A high-speed stirrer, having a shaft of one-half-inch diameter and a propeller at its end, was operated in the liquid. After a short time the fibers became separated. Upon removing the stirrer, the lower end of the shaft was found to be wrapped with a sheet of the separated fibers which extended upward along the shaft six or eight inches.

The preceding experiment was repeated, using a smooth cylinder eight inches in diameter and 24 inches in length as the stirrer. The cylinder was rotated in the liquid at an approximate speed of 600 r.p.m. The fibers were again torn apart. Fibers in the liquid could be observed to move to the smooth surface of the rotating cylinder. Swirls and eddies of different patterns appeared on the surface of the liquid when the rotating cylinder was moved along a radius of the drum with the axis of rotation perpendicular to the surface of the liquid. In this experiment the fibers did not wrap around the rotating shaft because of its large diameter and also because of the eddy currents in the liquid.

Apparatus was built so that a cylinder could be rotated at a given speed in a reservoir of liquid of known viscosity. A photograph of the surface of the reservoir would then indicate the behavior of the fluid under one set of conditions. Plate 1 shows the counter clockwise rotation of the cylinder in water. The cylinder is purposely placed towards the side of the reservoir more nearly to resemble carding and to illustrate the formation of eddies. Where the distance between the surface of the cylinder and the wall of the reservoir is smallest, a smooth flow of liquid is shown. The white turbulence in the center of the picture shows the

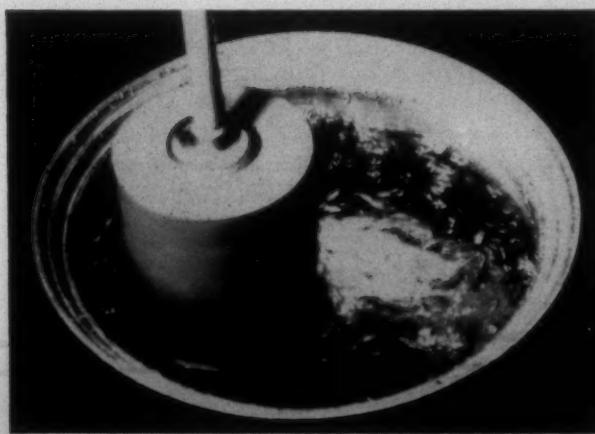


Plate 1—Smooth cylinder rotating in reservoir of water.

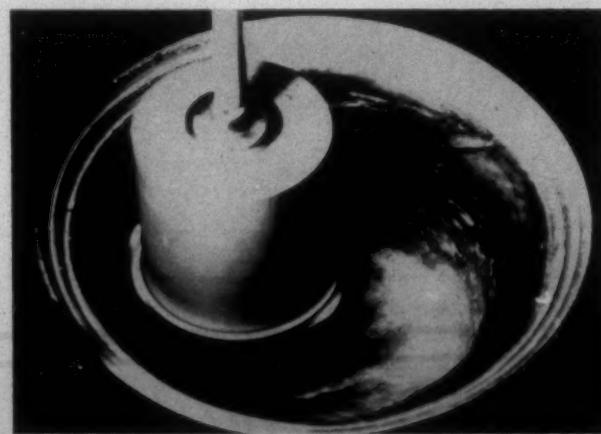


Plate 2—Cylinder with card clothing rotating in reservoir of water.

behavior of the liquid after diffusion occurs in the boundary layer of fluid on the cylinder.

The experiments and the photograph lend credence to the thought that the dominating factor in the design and operation of carding equipment is the control and manipulation of the boundary layers of air which sheath the rotating cylinders. The originators of carding machines appear to have developed empirically a principle the scientific explanation of which has but recently become available. The remainder of this paper will explain some features concerning the behavior and control of layers of air in the revolving top flat card.

The conveyance of fibers by the lickerin from the bite of the feed plate and feed roll to the cylinder is the first operation in the top flat card in which control of a boundary layer of air is important. A section around a lickerin is shown in Fig. 2. The type of air turbulence underneath a lickerin which is not equipped with screens may be surmised from a study of Plate 1. A cleaning action is obtained on the stock in process because the placement of the mote knives, grid bars, and screen under the lickerin, permits the boundary layer to diffuse so that a greater interplay of air, centrifugal, and gravity forces takes place. In a recent patent of the Shirley Institute⁷ to obtain improved cleaning at the lickerin an attempt is made to utilize these three forces more effectively before the nose of the lickerin screen begins to control the boundary layer on the lickerin. The difference in magnitude between the air shearing force and the centrifugal force of the rotating lickerin upon the fibers causes the fibers to follow the lickerin.

The clumps of fibers on the lickerin must be transferred to the cylinder to continue the carding process. The relationship of the machine parts at the point of transfer is illustrated in Fig. 3. Since the centrifugal force on a fiber caused by a lickerin nine inches in diameter, rotating at approximately 390 r.p.m. is equal to the centrifugal force on a fiber caused by a cylinder at 165 r.p.m., some other force appears necessary to cause the transfer of fibers from the lickerin to the cylinder. In fact old-time practice required lickerins to operate at 370 r.p.m. at which speed the centrifugal force on a fiber from the lickerin was less than that from the cylinder. As the lickerin and the cylinder rotate, each will have its own boundary layer of air. There does not appear to be any published information concerning the behavior of two boundary layers of this type, at contact. A surface of discontinuity will occur between the two boundary layers at which surface the tendency will be for the stream with the higher velocity to remove material from the stream with the lower velocity. A satisfactory transfer of fibers takes place in present practice where the surface speed of a lickerin at 460 r.p.m. is 18 feet per second and the surface speed of a cylinder at 165 r.p.m. is 36 feet per second. The work of Spibey⁸ furnishes evidence to confirm the fact that centrifugal force from the lickerin is not as important as a differential in surface speed between the lickerin and cylinder in the transfer of fibers to the cylinder. In a series of experiments the speed of the lickerin was increased to a point where the surface speed of the lickerin approached the surface speed of the cylinder. Since the speed of the cylinder was constant in the experiments, as the speed of the lickerin was increased, the centrifugal force throwing fibers from its surface became greater relative to the centrifugal force from the cylinder. Spibey concludes, "there is an upper limit to the taker-in

speed, at which fiber accumulates on the teeth; this upper limit lies between 649 r.p.m. and 845 r.p.m. when the surface speed of the cylinder is, respectively, 1.28 and 1.05 times that of the taker-in." It appears that the best transfer of fibers from the lickerin to the cylinder occurs when the surface speed of the cylinder is sufficiently greater than the surface speed of the lickerin to allow the boundary layer of air on the cylinder to strip the teeth of the lickerin.

Before discussing the behavior of fibers after they have been introduced to the cylinder, mention should be made of the card clothing. Customary wire clothing is shown in profile on the cylinder in Fig. 4. Clothing of this type has been generally standardized. Much has been written about the angle at which wire is inserted in the fabric backing, and the relative position of the wire tip to its base on the exposed surface of the cloth backing. A cylinder covered with clothing of 100s English counts, has 72,000 points of 33 American gauge wire per square foot. It is interesting to note that these 72,000 points with a wire diameter of .010 of an inch, have an area .039 square feet. In other words only 3.9 per cent of the exposed surface of the cylinder is wire. The fact that the wire leaves the surface of the clothing at a slight angle somewhat increases the area covered.

Simple calculations show that the exposed wire on the surface of the cylinder occupies only 4.9 per cent of the total volume surrounding the cylinder and extending from the base to the tip of the wire. Computations for other common types of clothing which have different numbers of points per square foot and are made of a slightly different wire size show no material change in the percentage area or volume taken up by the wire. It is evident that there is space for a controlled stream of air on the surface of the cylinder. Although the air space available for fibers may be readily calculated, top flat cards are so constructed that the study of the behavior of fibers on the cylinder by use of a camera, stroboscope, or other visual means, is not possible. The space in which carding takes place is small and the removal of parts to permit observation prevents the machine from operating normally. The slow rotation of its parts is an added handicap to the study of the carding machine by stroboscope.

A rough comparison of the available air space around a cylinder and the volume of cotton being carded under given conditions is of great interest. In this comparison the air space available for the carding action is assumed to consist of the space from the base to the tip of the exposed wire on the cylinder plus a film of air .009 inches thick—the setting between the cylinder and the flat wire. A further assumption is that all the carding occurs over approximately .6 of the surface of the cylinder between the lines across the card at the points tangent to the lickerin and the cylinder, and to the cylinder and the doffer. The volume of air surrounding the exposed wire for .6 of the surface of the cylinder is approximately 904 cubic inches and the volume of the .009-inch thick film is 34 cubic inches. The total available air space for fibers is accordingly about 938 cubic inches. For a production of ten pounds of cotton an hour with a cylinder speed of 165 r.p.m., there will be .00101 pounds on the cylinder per revolution or .000606 pounds for .6 of a revolution of the cylinder. Using the fiber specification shown previously, the volume of the fibers in 606 millionths of a pound of cotton is ten thousandths cubic inches. In other words there are 86,800 cubic inches of air

to care for each cubic inch of cotton fiber being carded. The volume of cotton being carded is very small when compared to the volume of the air stream in which shearing forces of air are available to act on the cotton.

A sketch showing the relationship between the cylinder and a flat is shown in Fig. 4. Since the forward movement of a flat is only 2.9 inches per minute or .004 feet per second, the velocity of the flats may practically be considered as zero with reference to the velocity of the cylinder. A velocity gradient in the air stream between the flat and the cylinder will cause those clumps of fibers which project into the upper layers of the air stream to be caught by the wires of the flat. Those fibers in the clumps which project into the layers of air closer to the cylinder are subjected to the terrific shearing action of the air which tends to tear fibers from the clump. An action of this type for fibers is indicated when the strips are removed from the flats. The strips are brushed from the surface of the flat and do not penetrate the wires of the flats so as to require the kind of stripping which is necessary on the cylinder.

The shearing force of the air and the mechanical action of the points on the cylinder will tend to separate the fibers, parallelize them, and carry them both forward and downward against the surface of the cylinder. The innermost fibers in the stream are pulled against the cylinder until the accumulation of fibers on its surface so regulates the air stream that most of the incoming fibers are available to be doffed.

Practical carders know that after stripping, cotton must be fed to a card for several minutes before a sliver is obtained which is sufficiently heavy to use. Spibey⁹ confirmed this fact in a series of experiments for the Shirley Institute and he also determined the rate at which a cylinder loads. He concluded, "After stripping, a period of 20 to 25 minutes is taken for the rate of absorption by the cylinder to become reasonably steady (i.e., for the cylinder wire to become loaded.) The highest rate of cotton absorption by the card cylinder occurs on the resumption of carding after

stripping, and the lowest rate just before stripping; the rate of absorption curve is approximately hyperbolic."

After stripping, a period is required for a sufficient quantity of fibers to be packed against the cylinder until a point is reached at which the action of the doffer tends to keep additional loading to a minimum.

Uniform control of the boundary layer of air on the cylinder occurs between the successive flats until the last flat begins to leave the cylinder. From the time the flat begins to change its position against the cylinder until the upper edge of the percentage plate is reached, a variation takes place in the outer perimeter of the boundary layer. Fig. 5 illustrates the position of the parts of a card at the beginning of the transition of control. Through empirical methods a setting has been found for the percentage plate which permits the boundary layer to make the transition across the gap at existing speeds before turbulence and separation emanate. No discussion is made here of the behavior of the boundary layer during this period. When the movement of the flats from the cylinder is considered in the same light as the movement of the doffer from the cylinder, and the top edge of the percentage plate is considered in the same light as the nose of the screen under the cylinder near the doffer, a similarity will be seen in the factors controlling the boundary layer at both places.

The relative positions of the cylinder and the doffer when in closest proximity are shown in Fig. 6. Since the surface velocity of a doffer 27 inches in diameter at ten r.p.m. is only 1.18 feet per second, the reason for the transfer of fibers from the cylinder to the doffer is not the same as for the transfer of fibers from the lickerin to the cylinder. Study of Fig. 6 shows that the outer perimeter of the boundary layer on the cylinder changes abruptly from a smooth plate set close to the cylinder, to the surface of the doffer with its extending wire points. A flaring throat between the cylinder and the doffer leads to a reservoir of air beneath these members. Since the wire on the cylinder has been shown to take up but 4.9 per cent of the volume surrounding the cylinder and extending from the base to the tip of the wire, the wire on the doffer will take up but a similar small percentage of space. Therefore the outer perimeter of the boundary layer on the cylinder suddenly expands to the base of the wire on the doffer even though there may be a close setting of .005 inches between the wire tips of the cylinder and doffer. The projecting wires on the doffer will tend to slow that part of the air jet which comes in contact with them. Although the present doffer has been developed empirically to remove a web from a cylinder, the method of transfer of fibers is not generally understood.

A rough illustration of the flow of air at doffing may be seen in Plate 1. Between the rotating cylinder and the wall of the container, a smooth flow of liquid is shown where the container wall and the cylinder are nearest together. As the distance between the two surfaces spreads, the flow becomes turbulent with a large eddy becoming evident along the surface of the cylinder. While Plate 1 illustrates the diffusion of a boundary layer of a rotating cylinder into a reservoir, Prandtl¹⁰ has shown that turbulence of a general pattern such as is shown in Fig. 7 will occur when a cylinder rotates in a stream of fluid whose velocity is twice as great as the velocity of the surface of the cylinder. The turbulence shown on Plate 1 and the turbulence indicated in Fig. 7 would be additive during doffing. As the air jet from the



FIG. 1 Maximum depth of boundary layer between flat and cylinder together with velocity gradients.

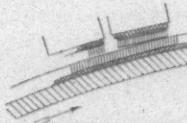


FIG. 4 Section showing relationship of a flat and cylinder

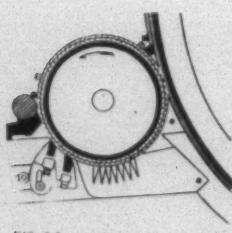


FIG. 2 Sectional elevation of lickerin

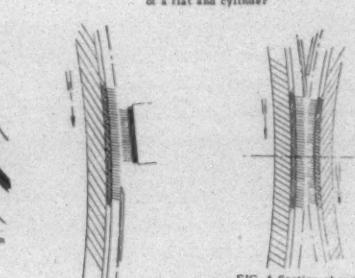


FIG. 5 Section showing flat as it begins to leave cylinder at percentage plate

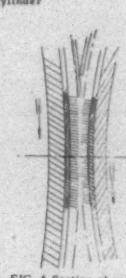


FIG. 6 Section showing cylinder and doffer at closest proximity

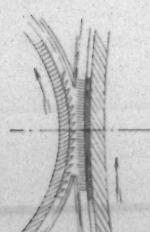


FIG. 3 Section of lickerin and cylinder at place of transfer

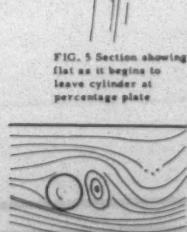


FIG. 7 Pattern of turbulence caused by cylinder slowly rotating in stream

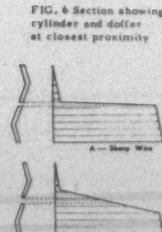


FIG. 8 Comparative gradients of air velocity between flat and cylinder

surface of the cylinder begins to spread into the space between the cylinder and the doffer, some fibers in the air stream will be thrown against the doffer and many will be subject to the vorticity of the air. This vorticity will tend to reduce the amount of parallelization in the fibers.

Recent studies of the Shirley Institute¹¹ indicate that fibers are not arranged in parallel order in the card sliver. The investigation showed that a hook, similar to that of a shepherd's staff, was common in the fibers. Of the fibers studied, 16.25 per cent had hooks on the leading end, 47.75 per cent had hooks on the trailing end, 13.25 per cent were hooked at both ends, 20.75 per cent had no hooks, and the remaining two per cent could not be grouped under any of the previous classifications. It is possible that the vorticity of the air stream transferring fibers from the cylinder to the doffer may be related to the peculiar positioning of the fibers in a sliver. While a turbulent flow develops along the surface of the doffer, control of the outer perimeter of the boundary layer of the cylinder begins again at the nose of the cylinder screen. Empirical methods have obtained satisfactory settings for this screen for the machine as constructed and operated. Thornley¹² states "It may be noted that actual experience demonstrates that all the good fiber is not promptly transferred from the cylinder to the doffer as might at first be imagined." This statement is confirmed in practice by the length of time in which cotton continues to be doffed from a card after a lap has run out. Studies are required to determine the pattern of air flow at the nose of the cylinder screen. As the nose of the screen begins to control the outer perimeter of the boundary layer of air on the cylinder, those fibers which are close at hand will be carried to the cylinder in the same way that fibers beyond the mote knives are drawn to the lickerin.

To illustrate the action of card clothing, Plate 2 shows the pattern of flow in a reservoir when the cylinder, covered with clothing, is rotating counter clockwise with the open end of the wire inclined in the direction of rotation as is customary on a carding cylinder. The flow pattern at the boundary layer appears smoother and more clear cut in Plate 2 than in Plate 1. The wire clothing seems to aid in controlling the boundary layer of fluid on the cylinder.

That better work is obtained after a card has been ground is axiomatic to a practical carder. Indications are that after grinding the gradient of air velocity between a flat and a cylinder may be of the type shown at A in Fig. 8, whereas with dull wire the velocity gradient of air may be of the type shown at B in Fig. 8.

In this paper some principles of fluid dynamics have been shown with reference to their application to carding with a top flat card. The same principles of fluid dynamics are applicable to roller cards. Additional study may show that neps are caused by small turbulent eddies which develop in the air stream as it flows past projection, terminating boundaries, and the like. The theory outlined should answer many questions about the carding operation and should aid in the development of improved textile processing equipment.

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A. R. Marley

UNTIL a few years ago operating executive personnel in the textile industry was made up almost entirely of men who had worked for a long time on various jobs and who had gained their practical knowledge by actually operating and fixing machines; men who for the most part had been brought up with little or no educational advantages, and certainly without any technical training whatever; men of varying temperaments who because of hard-earned, practical knowledge and because of an acquired or natural ability to supervise other people at work, had been elevated to their positions of overseer, superintendent, and manager.

You will note that I said men of varying temperaments. Some of you will no doubt remember the hard, overbearing, second hand and overseer who got things done by sheer drive and force; while others were more kindly disposed gentlemen who had acquired along with their practical knowledge an understanding of human nature that enabled them to create unity and co-operation among their workers. The economic history of this country is one of continual industrial adjustment which moves always to the dictates of changing conditions and demands. The practical man who fails to adapt himself to these ever-changing conditions will sooner or later find himself against overwhelming competition.

The period of industrial adjustment we have just experienced has been so rapid that in addition to the practical man there is now an urgent need for the technically trained man in our mills. More complex technical problems in engineering and maintenance have arisen, more scientifically designed machines have been put on the market, scientific methods of evaluating jobs and setting up work loads have been developed, complex labor and personnel problems never experienced before are coming into the picture. All this of course creates an ever-increasing need and demand for technical men in the field of textiles. The textile schools of this section are meeting this need admirably. They have expanded their facilities and broadened their curricula until the men they are graduating are unexcelled from the technical point of view; however, the college-trained man as he enters the mill needs a practical experience that he often does not have time to acquire, before he is placed on a supervisory job.

I would not overly emphasize the virtues of either the practical man or the technical man. Both of these are necessary, however a combination of the two is most desirable.

It is here that the Southern Textile Association fits into the picture. The association has become widely known because of the fine work being done in its respective divisions. The divisional meetings afford an excellent medium for

imparting knowledge gained through research and tests carried on in the mills, and it is here that both technical and practical men alike may discuss their mutual problems to the advantage of all. The founders of the Southern Textile Association set forth as its chief aim and purpose "The Education and Development of the Practical Men in Southern Mills." We have expanded this to include all operating men in Southern mills.

The operating men in the textile industry of today are facing an imposing challenge. We are informed that world population is increasing at a rate of about one per cent per year and is now numbered at a little less than $2\frac{1}{2}$ billion. This vast population must be clothed and supplied with all of the countless other textile items which it demands. The ever-increasing need for textile goods for the war and defense efforts must be satisfied. All of this must be done without sacrifice in quality for the public is becoming more and more exacting in its demand for high quality of goods.

The textile industry has grown until it now ranks as one of the big industries of the world, but its enormous task cannot be accomplished unless we as operating men do our part and do it well. Discouraging times are before us. In fact the years in the immediate future may be some of the most crucial we have ever faced. Inflation and war controls will, in all probability continue to affect us in many ways. However, we should not be discouraged in face of these conditions but rather be determined to do the task well. In many instances it is in time of great crises, and seemingly impossible demands, that new ideas and methods originate and are put into effect. Let us diligently strive to achieve our ambition—"The Most Expert Superintendents and Overseers in the Textile Industry." Remember that the biggest room in the world is the room for improvement.

In closing, may I say that I have enjoyed serving as president of the Southern Textile Association. I consider it an honor to have been elected to this office and it has been a privilege to serve in this capacity. I wish to thank every member of the board of governors and each officer for his splendid co-operation, and especially Jim McAden, the secretary and treasurer, for his fine support and his untiring efforts in behalf of the association. The divisional chairmen have done an excellent job this year, and I am sure all of the members of the association appreciate their fine work. I would like to thank the Associate Members Division, its chairman and all his committees for their support. This division is a vital part of the association. The co-operation of the entire membership of the association has been splendid and with this spirit of co-operation the Southern Textile Association will continue to fulfill the purpose for which it was founded.



W. H. Ruffin

TODAY I talk with you as one American with others about the situation in which we, as a nation, find ourselves—counsel with you upon what we can do, what we

MUST do in our present predicament. As Americans we are accustomed to dealing with hard facts, to making two and two make four, and moving out from there.

We are engaged in a defense mobilization effort that will cost us tens of billions of dollars and years of unremitting toil and heavy sacrifice to arm ourselves against the aggression of international Communism abroad. And we are being stalked here at home by Communism's sixth column—inflation.

Communism is the mortal enemy of our American freedom. But inflation is an equally deadly enemy of that freedom, and it is here—now.

We are destined either to face the fearful facts of inflation and facing it to fight and defeat it,—or, we are destined to ignore inflation and pay the terrible penalty of national insolvency for our cowardice.

The choice is ours. We can survive as a strong and free people. Or, we can surrender our heritage of freedom and allow the political plotters and blunderers to wreck the economy and thereby seal our fate.

It is not pleasant to admit that the inflation threatening us has bred despair in many Americans. These faint-hearted people do not deny the gravity of the situation. But they only wring their hands and say that we are in the grip of forces too great and too powerful to defeat. As a matter of fact, the greater their realization of our peril the deeper is their sense of defeatism. That attitude is un-American. It is a repudiation of our country's traditions and principles. It indicates moral spinelessness and an intellectual blindness.

Obviously, inflation cannot be defeated if we are afraid, indifferent or less than completely patriotic. Those who have been openly encouraging and aiding inflation are certainly not of their own volition going to stop it. But the American people—acting with courage, intelligence and unity, have the power to demand and to see that inflation is stopped. Under our political system, the voter is the final court of appeal. And with that voting power in our hands, no public man will long dare to ignore our considered views.

Recently President Truman went on the air to appeal for public support for the tightening of controls in an extended and amended national defense act.

In the course of his remarks, Mr. Truman assailed what he called "special interests" and particularly the National Association of Manufacturers which he said are "wrong" in advocating economy in government, pay-as-we-go taxation and limitations of credit as the only effective weapons against inflation.

Much was made in the President's address of the fight made by N.A.M. in 1946 to free production from the shackles of O.P.A. But the President did not recall for his listeners that on Nov. 9, 1946, he himself declared: "I am convinced that the time has come when such controls can serve no useful purpose. Their further continuance would do the nation's economy more harm than good. Accordingly, I have directed the immediate abandonment of all controls over wages, salaries and prices."

Now let's look at the record. In 1946 N.A.M. said in no uncertain terms that if price controls were removed there would be plenty of things to buy at reasonable prices. What actually happened was that there was a very sharp rise of the wage level early in 1946. The Administration

had come up, you will recall, with the novel theory that wages could be advanced without any effect on prices. When price controls were first taken off, prices tended to catch up with wages. In 1947 wages spurted ahead and the price level lagged behind until toward the end of the year.

In the middle of 1948 prices turned downward and the down trend continued until the Korean explosion. Wages on the contrary went up, held a high level, and resumed the rising spiral four months before the price level followed. A further fact is that since O.P.A. was lifted in 1946, American industry increased production by 31 per cent—tremendously important in the light of predictions by top Administration officials that at its peak the defense effort will not require more than 20 per cent of our national production.

Still another fact overlooked by the President in his address is that largely through the actions of the government itself, government's borrowings to cover its deficits—the money supply of this country has been inflated by 213 per cent since 1939.

In the face of such direct and massive inflation it has been only the ever-increasing production of goods by American industry that prevented consumer prices from spiraling to equally dizzy heights. Production and ever more production has held the rise in consumer prices to only 86 per cent—a far, far cry from 213. Nor was mention made by Mr. Truman of the fact that since abandonment of O.P.A. controls, wages have advanced 57 per cent while the cost of living has risen no more than 42 per cent.

Never in all history have even the most severe penalties including the death penalty during the French Revolution for the violation of controls, been effective to stop inflation. And wages and price freezes today will not stop inflation. But, of course, now that such freezes have been imposed, all patriotic and law-abiding citizens will co-operate to make them as effective as possible until they are removed.

I have said that freezing of prices and wages does not do the job of stopping inflation. In the first place, the law of supply and demand deals effectively with these problems in normal times. No one doubts that, for in normal times no one advocates price and wage freezes. Will they handle the inflation problem in times of shortages of goods?

Well, we had some fair experience during the O.P.A. days. You and I know from that experience that inflation was not stopped. In fact, it grew under those very controls. And despite the announced ceilings we see prices and wages going still higher today with the blessing of the public and labor members of the very Wage Stabilization Board which fixed the ceilings.

American industry agrees heartily with Mr. Eric Johnston, the Economic Stabilization Administrator, that inflation is an "economic time bomb." But Mr. Johnston knew, even when he imposed them that controls will not defuse that bomb because, as he himself has said, such controls do not get at the root causes of inflation.

And American industry agreed with Mr. Johnston when he asserted that the wage and price controls he was imposing "will not be effective for long" adding, "it is essential in preserving our freedoms to get rid of wage-price controls at the earliest possible moment."

Wage and price controls hinder, not help production.

The record of the last war with its shortages of white shirts, shoes, clothing and many foods, such as meat, makes this clear. And controls are getting in their ghastly work again when we are straining—or should be straining every muscle to build up our defenses.

Out of scores of similar letters I have received, I have chosen to read from one briefly as dramatic evidence of the destructive effect of wage and price controls on desperately needed defense production. This manufacturer writes, in part, as follows:

Wages and price controls are definitely limiting the productive capacity of my plant which is working almost 100 per cent on direct defense orders or related orders.

In times of business activity, it is natural that plants bid against each other for the available man-power. Under wage controls, I cannot compete with other plants, even to hold my own employees. If an employee of mine is offered a higher rate by some one else there is nothing I can do about it because he will not wait the four or six months it takes to get a decision from the Wage Stabilization Board as to whether or not I can match the offered rate. I am losing and will continue to lose valuable employees under such a system. It will not necessarily put me out of business but the Defense Effort very definitely suffers.

Approximately 25 per cent of my time is spent in trying to assimilate daily regulations, instructions, amendments, reports, etc., on wage or price matters. My time could be much better spent on getting out the production of defense items.

I believe that Joe Stalin would give his right arm for the American production "know-how" that our government seems to distrust and hamstrings either by intent or through ignorance.

Since 1939 our manufacturing facilities have increased by 75 per cent and another ten per cent gain is expected by the end of this year. If Stalin had our productive capacity and our productive "know-how," I firmly believe we'd be at war today.

America's production is America's salvation and every reasonable measure should be taken to not interfere with it. Wage and price controls, regardless of how well administered, give the public a false hope that inflation will be arrested and the value of the dollar preserved. The very existence of such controls makes it increasingly difficult to obtain an effective anti-inflation program.

The weaknesses of a wage-price program to stop inflation are inherent. A price freeze or a wage freeze destroys the flexibility of our system which in ordinary times can be relied on to keep our economy in balance. Both inequities and unworkable relationships are frozen. They result in checks on production. No manufacturer will produce goods he must sell at a loss. So then there are demands for more and more exceptions. And that thawing causes a demand for exceptions in other fields.

Potent pressure groups—by their power—can bring a thaw where they want it. And that easement to one group, which has political power, is taken at the expense of another group without political power.

The president told the country we are in the midst of a grave emergency. But there is no emergency that can justify the achievement of social gains and welfare state objectives that could not be attained in normal times and through normal legislative processes. And there is no emergency that can justify in the name of defense the scuttling of our economy by the imposition of unworkable controls and the destruction of our freedom by vesting in the central government practically dictatorial powers. We must not lose for ourselves at home the very freedom we are preparing to defend abroad.

Pending legislation to extend the Defense Mobilization

Act of 1950 would do much more than merely extend the authority to control wages and prices. There is in that legislation a series of little-heralded proposals which if enacted in the name of defense would create:

(1) Unlimited authority for the Executive Branch of the Government to summarily condemn and permanently take over any property it may desire. The President already has the power to requisition needed plants. Under this proposal the owner might not know the government even wanted his property until condemnation proceedings were under way.

(2) Unlimited authority for the Executive Branch of the Government to operate plants and to sell the products of those plants in any way that it may please, engaging in competition with private producers in any field.

(3) Unlimited authority for the Executive Branch of the Government to set up any and as many corporations as it may desire—an effort to get defense expenditures out from congressional control through normal appropriation procedures.

(4) Unlimited authority for the Executive Branch of the Government to finance and operate any and as many corporations as it may desire in the name of defense—unlimited authority for the President to lend unlimited funds to any company he may select.

(5) Unlimited authority for the Executive Branch of the Government to buy any commodities, either foreign or domestic, and dump them on our domestic market at any price it may desire—even if the dumping would break the free market prices.

(6) Unlimited authority for the Executive Branch of the Government to subsidize any individual producer or industry to whatever degree it may decide.

(7) Unlimited authority for the Executive Branch of the Government to demand and publish any information it may desire from any individual or corporation regardless of the effects of such publication upon such individual or company.

(8) Unlimited authority for the Executive Branch of the Government to censor or suppress any governmental statistics of business or government operations—for instance, the cost of living statistics or the R.F.C. figures which have proved so interesting recently.

It is almost incredible that the Executive Branch of any government should ask for such powers in the name of "defense of freedom," because clearly any government which has these powers could at any time it so decided substitute government ownership and operation for private enterprise from one end of the nation to the other.

I believe that the American people—from the folks in what politicians call "the whistle stops" to the great industrial areas—are awake to the menace in this situation. Im-

pressive evidence of their alertness is the amazement expressed by some senators and congressmen who thought they might be overwhelmed by the public's response to the President's radio appeal and received only the most scattered reaction and a large part of that opposing the President's proposals.

We are told that this is emergency legislation indispensable to the defense effort which, we are also told, may last for ten, 15, 20 or more years. There is nothing in Washington so permanent as temporary, emergency legislation once it gets into the statute books—and if the powers I have described are enacted they will be so engrained into our system before the current so-called emergency ends that we may never be able to dig them out. To cite a single case, the R.F.C. was created as an emergency operation for one year, but it has been lending for 20.

But, you may ask, if controls on prices and wages will not stop inflation, what will? Well, the National Association of Manufacturers has a program to stop inflation which we believe would be effective. We believe it would be effective because it deals with the causes of inflation, rather than lamely trying to deal with the results of inflation. And I know of no reputable economist who disagrees with our program of getting at the root cause of inflation.

Our plan is simple. It may be summarized in four parts. The first part of the plan is to pare every last non-essential, non-defense government expenditure to the very bone. We must cut off every ounce of waste in government expenditures, particularly for purposes not connected directly with the defense effort. Almost \$5 billion dollars can be cut from the President's non-defense budget with nothing but good resulting. Cut out the thousands of automobiles with chauffeurs used by the bureaucrats as much—or more—for personal pleasure as for official business. Lop off appropriations for needless bureaucratic junkets around the world. Streamline every government activity and rid them of thousands of unnecessary job-holders cluttering every federal department and falling over themselves doing nothing.

It is foolish to talk about balancing the budget when the government spenders are given a free hand to spend. A government spender can always out-run a government tax collector. One control we really need today is a control on the federal bureaucrats who are so lavish with other people's money. In 1950, one out of every 24 Americans worked in civilian jobs for government—federal, state or local. This army of 6,402,000 people, according to the Census Bureau, was paid the astronomical total of \$1,527,900,000 a month. The federal government alone—in 1950—had 1,000,000 more civilian employees—I emphasize *civilian*—than in 1940. And it is proposed, according to Senator Byrd's committee, to add another 500,000 civilian employees this year.

It's such things in government, such squandering of hard-earned tax dollars, that ought to arouse every American taxpayer to demand an end to waste and extravagance in federal spending.

The second part of our plan is to pay the whole cost of our defense program, as well as the other expenditures necessary by the government, out of taxes. Of course, no one likes to pay higher taxes. I don't like it. But it is the only way out. Young men don't like leaving their families and friends to go to war. But just as they do their duty and endanger their lives so must we—all of us—do ours.



Smith



Woolley



Reed

Officials of Associate Members Division, S. T. A.

and pay higher taxes. For if we don't we will most surely pay in inflation.

That could bring us to the brink of disaster—and maybe over it. And the additional taxes imposed to cover expenditures must come out of spending—preferably by way of consumption levies on all manufactured goods except food and food products. Taxation should not be applied so as to curb the incentive to produce.

The third part of N.A.M.'s program to get at the roots of inflation is to institute and develop both general and specific controls to stop the expansion of credit either through private or public sources—the kind of credit which will feed the fires of inflation.

That means full control once more by the Federal Reserve System of money and consumer and installment credit.

I am glad to see that very recently—and I may say it should have been done long ago—slow but effective steps have been taken in that direction.

The fourth point of our program is to increase our productivity. We must produce such a volume of goods that will absorb the dollars which are chasing scarce goods and driving prices up today. Production and still more production should be our keynote. Those are simple steps to fight inflation. They mean sacrifice on the part of all of us at home. But our belt tightening is as nothing when compared with what young Americans are suffering for our freedom abroad.

Speaking of "belt-tightening"—it is high time we Americans discuss rebuilding our national character, our national morality and our national integrity. It is time that we face squarely the results of our individual shrinking of the citizenship responsibilities that must be discharged if we are to remain free.

We have in recent months been shocked to the core by scandals in officialdom from city halls through state capitals and into Washington itself. There is the sorry story of \$10,000 mink coats on White House secretaries—the R.F.C. mess, all of which, apparently, has not yet been told—the exposures by the Kefauver Committee of widespread graft, corruption, bribery and even murder on every level of our civic life—local, state and national; the sordid bribing of college basketball players—and on and on through one of the darkest if not indeed the darkest chapter of our national and individual moral history.

Add to that dismal picture the frightful progress toward inflationary ruin which is being encouraged and accelerated by our own intellectual and moral apathy. For inflation is economically and socially immoral. It is the crowning triumph of the political quacks who sell people into economic slavery by making them think they can get something for nothing. It is an extension of the racketeer's cry that "only saps work." It is the negation of national integrity and individual responsibility and thrift. It is fundamentally dishonest. It corrodes and corrupts a nation's sense of values and its traditional moral standards.

These are mighty serious—yes, tragic—days for Americans. The chips are down. The issues are drawn. Our hard-won freedom—economic and individual—is at stake. It is time for every American worthy of the name and worthy of freedom to stand up and be counted, to talk out against abuses of power, and above all, to vote his convictions in every election—local, state and national.

You men of this industry are natural, accepted leaders or you would not be here today. I have said I believe the

American people are awake. And what they need desperately and what they want desperately is leadership—leadership from practical, hard-headed, straight-thinking and patriotic men—men, devoted as you are, to the preservation of the freedom handed down as a trust to us for our children and their children; a precious legacy of individual religious, political and economic liberty.

I leave with you a challenge that must be as stirring at this moment to you as it was when Thomas Paine penned it 175 years ago to hearten Washington's ragged band at Valley Forge:

These are the times that try men's souls. The Summer soldier and the sunshine patriot will in this crisis shrink from the service of his country; but he that stands now deserves the love and thanks of man and woman. Tyranny, like hell, is not easily conquered; yet we have the consolation that the harder the conflict the more glorious the triumph. What we obtain too cheaply, we esteem too lightly; 'tis dearness only that gives it value. Heaven knows how to set a proper price upon its goods; and, it would be strange indeed if so celestial an article as Freedom should not be highly rated.

My friends! When the history of this crisis is written let it not be said of us that we were "Summer soldiers" or "sunshine patriots" when human freedom, the like of which no people have ever known, was at stake.

David Clark

THE purposes of my trip were to see the International Textile Exposition at Lille, France, which ran from April 28 to May 20 and to attend the Annual English Textile Institute Conference, which was held this year May 21 to 25 at Brighton, which is the Atlantic City of England. It was also my purpose to visit textile plants in other countries, but I did not do much along that line except in Norway. I sailed for Europe April 20 and reached New York upon my return on June 7.

The International Textile Exposition was several times as large as the Textile Machinery Exposition held at Atlantic City, N. J., last year. There were large exhibits of textile machinery from many countries and many American textile manufacturers now regret that they did not send members of their organizations to study the machines which were shown.

There was practically no advance publicity and very few American manufacturers knew that there was to be an International Textile Exposition. The exposition was very poorly handled and not only were hotel rooms not available, but it was very difficult to secure accommodations in private homes. Some of those who have "beefed" about accommodations at Greenville, S. C., during the Southern Textile Exposition should have been at Lille, France, on any day between April 28 and May 20.

I tried several times to see the secretary of the exposition and obtain authentic information about the size of the buildings, number of exhibitors, etc., and even had a definite appointment with him at one time, but he failed to show up.

A friend who went to Hanover, Germany, for a machinery exhibition, which included textile machinery, told me that there was a striking contrast. In Hanover all booth signs were in three languages, including English, and there was always somebody who could speak enough English to explain a machine. At the International Exposition the signs at an Italian machinery exhibit were in Italian only and very few of the exhibitors could speak English. That

was the general rule throughout the exposition and it made it very difficult to secure much information about machines.

The thing which impressed me most was the very large number of automatic looms which were shown. Until very recently labor unions in England and in other European countries refused to permit weavers to operate over four or six looms and it was therefore impractical to install automatic looms. Recently labor unions have released their very rigid controls and in many mills weavers operate 30 to 40 looms and mills can now afford to operate their plants with automatic looms. This has encouraged the manufacture of automatic looms, both bobbin change and shuttle change, and many have new ideas in construction.

Both the Draper Corp. and Crompton & Knowles Loom Works had looms in operation and they appeared to us to be better constructed and to operate more smoothly than any of the overseas looms which were being exhibited.

There were three circular looms exhibited, all of them manufacturing seamless bags from jute yarns. One of them seemed to be doing a remarkably fine job and its overhead platform was constantly filled with spectators.

The Warner & Swazey loom was not shown but there were three looms of that type shown, all of them weaving from cones instead of quills in shuttles. I was especially impressed with the "Sobretex" loom manufactured at Amiens, France, and the "Balle" loom manufactured in Paris.

The "Balle" manufacturers describe their operations as "a double woof (filling) introducer in which a flexible steel blade is controlled by intermittent pulleys with ball bearings." It was being operated on a dobby fabric and was making excellent cloth but, of course, had an irregular selvage.

The machine which attracted most attention was a spinning frame without cylinders but equipped with gear driven spindles. A very long frame was shown spinning coarse wool yarns, but they said that while they had not spun cotton, they felt that it would operate equally as well on coarse cotton yarns and insure a uniform twist. One Southern yarn manufacturer has the idea that he can remove the cylinders, rails and spindles on some old frames he has on coarse yarns and replace them with completely new rails with the gear driven spindles. I do not know that he has been able to perfect an arrangement of that kind but see no reason why this idea would not work.

Another machine which attracted unusual attention was the automatic yarn strength tester shown by the Uster Corp. of Switzerland. When this machine is set to work on a bobbin of yarn, it makes one break then automatically draws another length of yarn and breaks that, and continues to

make break tests until the yarn on the bobbin is exhausted. Each break is recorded and a curve drawn. One mill man said that with such a machine he could cut out two of the three men he now employs to test yarns. Borden Mills, at Kingsport, Tenn., has purchased one machine but, as the unit is not yet in production, it will probably be six months before others can be secured.

There were a great many machines shown at the International Textile Exposition and many had interesting mechanisms and features, but as it was impossible for me to describe all of them I selected those which I felt would be of most interest to you.

The second object of my visit to Europe was to accept an invitation to attend the annual conference of the British Textile Institute which was to be held this year at Brighton, England, May 21 to 25, with May 24 set aside for a trip to London and a visit to the London Festival. We reached Brighton on the night of May 21 and attended sessions on May 22 and 23, but did not go back to Brighton for the May 25 sessions.

As the result of letters written by Walter B. Pratt of Charlotte, United States representative of Sykes, Inc., our arrangements at Brighton were made by the English Card Clothing Co., of which Sykes, Inc., is a division, and they also sent Dennis Kershaw of Halifax, England, and his very attractive wife to Brighton and they did much to make our stay pleasant.

Dean Malcolm E. Campbell of the School of Textiles at North Carolina State College, and Dean Hugh Brown of the School of Textiles at Clemson College, were present and took part in the discussions. W. B. Shuford, general superintendent of the Shuford Mills at Hickory and Granite Falls, N. C., attended some of the sessions.

Among those in attendance were A. De Monchy and J. J. Bouma, textile manufacturers of Holland, and it was my good fortune to be with them much of the time. Both spoke excellent English and I was impressed with their textile knowledge and progressiveness. De Monchy told me that just before he left Holland, he had had a visit from Arthur Borden and W. J. Still of the Borden Mills at Kingsport, Tenn., and had shown them over his plant.

The conference at Brighton was very well attended and I enjoyed meeting many fine Englishmen. They were very hospitable and did everything possible to make our stay pleasant.

I will have to admit that they handled their conference in a much more practical manner than we handle ours. All papers are written and printed prior to the conference. Instead of tiring an audience by reading a long paper, the author takes the platform and explains the high points and his reason for holding his opinions. Then four or five men, who have been previously designated and have read the paper, take the floor and either express approval or disagree with the author. It is certainly a more intelligent approach to textile problems than having a man read a long address during which most of his audience are thinking about their golf game or other things and very few having paid close enough attention to discuss any point which he has made.

The weakness of the English Textile Institute Conference and, in my opinion, that is the weakness of all discussions of textile problems by the English, is that they always tend towards the highly technical side rather than to the practical side. No country has devoted nearly as much time to textile



Ready for Friday evening activities at Blowing Rock, left to right: Mrs. H. T. Monroe, Mrs. Albert Elliott and Miss Margaret Robinson; Mr. and Mrs. John M. Reed.

research as the English and yet while they were doing their research the number of spindles in England dropped from 56,000,000 to less than 30,000,000.

An American manufacturer who recently visited an English mill which is regarded as one of the most modern in England, tells me that while their wage scale is about half his scale, there were so many employees and their production was so low that his cost per pound was almost as low as that of the mill he visited. Very few English mills operate more than one shift and most of them make a wide variety of yarn numbers or fabrics. Very rarely does a mill manufacture one yarn number or one fabric. In very few instances do English mills both spin and weave. The yarns are usually made by one company and purchased and woven by another company and that undoubtedly increases the expense of the end product.

I do not feel that I should close this address without giving you some idea of the impression I acquired during my seven weeks' visit to Europe, but I have many times resented statements made, or stories written, by persons who made hurried trips through the South and acquired erroneous impressions based upon the limited or casual contacts which they happened to make, and I realize that the impressions I acquired may not have a sound basis.

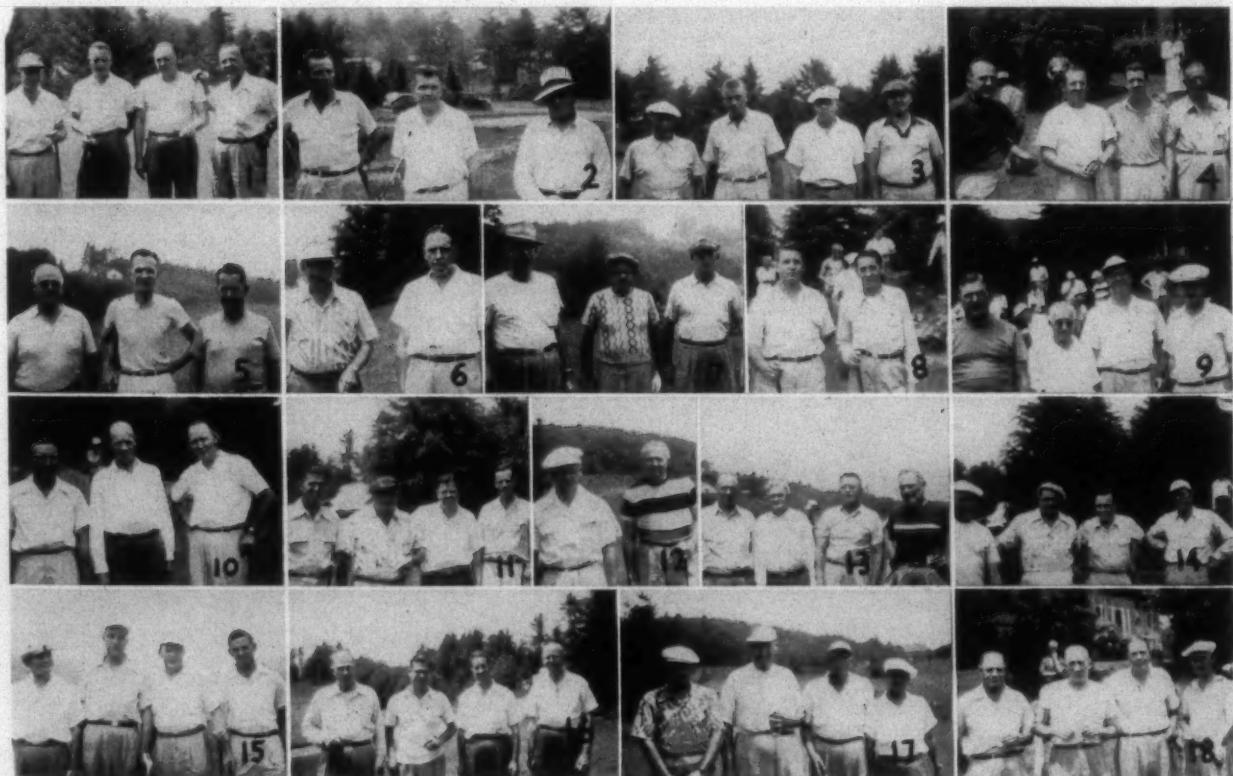
As the question most often asked us is "Do the Europeans expect war?" we will begin by saying that we found very

few who anticipate war. They appear to base their opinions upon the belief that Russia knows that the United States has a large stockpile of atomic bombs, with bombers located close to Russia, and can and will do terrific damage to Russian cities when and if that country makes an aggressive move. We found many who doubt that Russia actually has the atomic bomb.

The following are our impressions based upon contacts made during our visit: France seems to be well upon the come-back trail but has a large Communist group which may disrupt her progress. The Germans overran France so quickly that it was not necessary to destroy buildings or cities and France does not have a rebuilding problem of any great magnitude. The French people, especially those upon the farms, appear to be working hard and should there be no war the people of France should be in good financial condition within the next two years.

Belgium and Holland have made the greatest come-back of any countries in Europe and that is based upon the fact that the people generally have determined to do whatever amount of hard work is necessary for their recovery and both countries have colonies which did not suffer by reason of the war.

Norway, in the far north, is handicapped by the heavy taxation under its Socialist government but the people looked healthy and well fed and well dressed. Only four



GOLFING GROUPS GATHERED AT BLOWING ROCK—(1) Don Blanton, R. Y. McCarter, J. L. Wescott and H. W. Haynes of Gates Rubber Co. (2) Phil Gossett of U S Bobbin & Shuttle, Rouse Joyner of Corn Products and D. C. Ragan of U S Bobbin. (3) Bill Uhler of Blackman-Uhler, John Bryant of Bryant Chemical, Harry Falls of J. P. Stevens and Fred Hart of Greenwood Mills. (4) Bill O'Steen of Staley, W. A. Rhinehardt of Golden Belt Mfg. Co., Dick Hartman of Terrell Machine and Ned Gavin of Terrell.

(5) L. A. Dillon of Staley, Roddy Meikle of Rosemary Mfg. Co. and George Batchelor of Odell Mill Supply. (6) F. W. Perry of Stein, Hall and C. A. Ewing of Kendall Mills. (7) E. G. Leonard of Carlton Yarn Mills, Dee Trammell of Carlton and Mon Randall of Carlton. (8) Wes Smith of Borne, Scrymser and Sam Bernado of Textile Mill Supply. (9) Webb Layton of Industrial Products, W. F. Lancaster of Fabrecks Products, Jim Chapman of Riverdale Mills and Lee Ramey of Inman Mills.

(10) L. C. Harmon of Penick & Ford, Tom Nelson of Penick & Ford and Dave Purcell of Fieldcrest Mills. (11) Alden Simpson of Corn Products, C. A. Barrett of Abney Mills, T. J. Willis of Greenwood Mills and C. D. Ridgway of Corn Products. (12) J. B. Tollison of Drayton Mills and Earl Bagwell of Beaumont Mills. (13) M. A. Bolick of Brookford Mills, W. A. Pridmore of Brookford, W. L. Brigham of Green Textile Supply and Dick O'Steen of Walker Mfg. Co. (14) H. P. Bond of United States Rubber, C. F. Cline of U. S. Rubber, Bill Mueller of E. H. Jacobs-Bullard Clark, and L. L. Fronenberger of Jacobs-Bullard Clark.

(15) Sam Snoddy of Aleo Mfg. Co., Carl Boggs of Seminole Mills, Leon Jones of Odell Mill Supply and R. B. Rowe of Meadows Mfg. Co. (16) Jack Alexander of Slip-Not Belting, Luke Thomason of McGraw-Hill Publishing, Ernest Dodge of Foster Machine and Dick Dunn of Whitin Machine. (17) C. E. Moore of Crescent Spinning Co., J. O. Edwards of Southern Spindle & Flyer, Roy Hovis of Climax Spinning Co. and W. T. Burton of Victor Ring Traveler. (18) Bill Miley, Ed Holt and Gus Melver, all of Erwin Mills, with Bill Terrell of Terrell Machine.

per cent of the land in Norway is tillable and they have to depend, to a large extent, upon fishing and on wood pulp from their great forests. The people of Norway are somewhat jittery over the possibility of being overrun by Russia in case war comes.

Norway, Sweden and Finland all come to one point in the north and the Russians would not have to travel far if they advanced through Finland. One Norwegian, who had recently been in Finland, said that while a large portion of that country is not occupied by Russia, they are living in deadly dread of what may happen to them. He said that during the entire time he was in Finland he did not see any man smile. Sweden managed to stay out of World War II, but, because of her proximity to Russia, her people are jittery and expect an invasion from Russia if war comes.

Flying from Stockholm to Copenhagen, Denmark, we found the most American-type city in Europe with about 80 per cent of the people in Denmark living in Copenhagen. They have a very large production of poultry and dairy products and would be doing very well if the English had enough money to buy those products as they did prior to World War II. Denmark has no means of defense and was quickly overrun by the Germans in World War II. They do not see how they could resist a Russian invasion.

While in England we acquired the impression that the people of England more than those of any other country are not settling down to hard work. While at Brighton we visited a nearby farm operated by some rather well-to-do people but the wife of the owner was having to feed and milk the cows because she could not find any persons who would accept employment for such work.

On each side of the railroad as we went to Brighton there were lush green fields, with low hedges around them, but only occasionally did we see any cattle. There was a definite shortage of beef in England and it appeared to us that many cattle should be feeding in those fields but there may be good reasons why they are not there.

At the door of the Savoy Hotel in London there were always five or six men meeting cars and depending to a large extent upon tips or "gratuities," as they call them.

When we arrived at the Waldorf-Astoria Hotel in New York there was one door man although the Waldorf-Astoria is several times as large as the Savoy. In the smallest dining room at the Savoy there were 30 waiters although there were seldom that many customers.

As the famous English Derby was run at Epsom Downs while we were in England, we attended, and as there was a horse named "North Carolina," we helped decrease the dollar gap by placing a few bets on him to "show." He came in eighth in a field of 37 horses. When we reached Epsom we found that it cost four pounds (\$11.25) to get admitted to the Tattersalls Section in which there were some seats but in which most people had to stand. We estimate that there were 8,000 English in Tattersalls that day at \$11.25 each whereas we had heard that money was scarce in England.

The English are a fine and intelligent people but we definitely gained the impression that a large percentage of them are not willing to do the work and make the sacrifices necessary to recover from the damage done to them during World War II and which is now being done to them by their Labor Government.

As we stated above, we are writing our impressions based upon short visits and casual contacts and with the full realization that there may be another side based upon information to which we did not have access during our trip.

One of the most pleasant portions of our trip was our visit to Norway and our contacts there with a number of young men who graduated from the School of Textiles at North Carolina State College and are now operating textile mills in Norway. Accompanied by Mrs. Clark and Dean Malcolm E. Campbell, we flew on the KLM Line from Brussels, Belgium, to Amsterdam, Holland, and then straight north for five and a half hours to Oslo, Norway. We were met at the airport by two State College graduates and from then on, they did everything for our pleasure. Their mills are small and they cannot get dollars with which to purchase more machinery but there are ten State College graduates in Norway and all of them hold responsible positions.

SYNTHETIC FIBERS

By F. M. JOHNSON, Research Director, Pacific Mills, Rhodhiss, N. C.

WE all like to watch things grow, whether a garden, ourselves, children, our industry; whether they are big things or small things; sometimes because we are interested in those things and sometimes because we like to see change. Like many of you, I was interested in cotton to begin with and switched over to synthetics or man-made fibers; and I find them a very fascinating subject, because it is a growing field. There is a tremendous amount of work to be done in it. We are just beginning.

Back in 1920, 8,000,000 pounds of synthetics were produced—just 8,000,000. In 1940, 20 years later, 600,000,000 pounds were produced and used in this country. Right now the amount of synthetics used is about 1,500,000,000—1,500,000,000 of synthetics, and the total amount of fibers

used is 6,500,000,000 pounds. Synthetics are really beginning to get into that big total. Cotton has grown; wool has grown; but synthetics are growing faster.

In the beginning, of course, rayon was known as synthetic silk or artificial silk. It was not long before the production of synthetics surpassed the production of silk, and it was not too long before synthetics equaled wool. In 1940, 600,000,000 pounds of synthetics were consumed, and 600,000,000 pounds of wool. Cotton, I might say for the benefit of those of you who are interested in that fiber, is being consumed at the rate of 4,500,000,000 pounds. It is still king, but some day synthetics could very well equal it or surpass it. If given a chance, they will probably reach it. It may be some consolation for you mill men that certain

mill owners in this section have said they do not care how great or how fast synthetics grow, that they will always run cotton mills.

There are five major fibers used: acetate, viscose, nylon, cotton and wool. In the same breath I always like to mention that there are five absorbent fibers. There are more, but there are five important ones: acetate, viscose, vicara, cotton and wool. The non-absorbent fibers are nylon, orlon, Dacron, Dynel, Chemstrand and a few more to come. Those are the two important characteristics, absorbency and non-absorbency.

I might say that there are some vast improvements needed in synthetics. They are going to grow, but many things need to be done. Viscose and acetate are both rather "cheesy" fibers as compared to cotton; there is no getting around that. They have poor wear resistance. If any of you have been out in a mill where you had to cut yarn off the bobbins, wool and nylon and viscose, you have seen how easily rayon cuts off. Nylon is tough; cotton is tough. There are certain objections to nylon which I shall present in a few minutes, but it is a good fiber. To show you how cheesy acetate and viscose can be, a pair of cotton denim overalls will last about a year but if overalls were made of acetate or viscose they would last only two or three months. If you put nylon in with the acetate or viscose you get six or seven months' wear out of that same garment. Then if you go on and put greater fiber length into the garment you get increased wear. Also, you can put in a larger denier and get longer wear. So you see what you can do with your synthetics.

The styling and uses of synthetics have sometimes been poor. If you have had a nylon shirt, you can appreciate that. Sometimes the poor results have been due to using too fine a denier or too short a staple; sometimes there is poor blending; sometimes the finish is poor and there is poor crease resistance. There have been several things wrong with synthetics. All these details, though, are being studied and worked on by a lot of people who are working very hard at it. Not all of these people are in the textile game, either. We have to thank our friends in the chemical industry for much of the improvement in synthetics. They have worked very hard at it and will continue to do so.

Let us consider deniers and fiber length a little bit. It is essential to get a clear concept of what denier is. It is a very simple thing, but you might have some difficulty in defining it. We must know what the various denier sizes do to a fabric and how they run in the mill, and the relation of the natural fibers to the synthetic fiber is a worthwhile picture to get in your mind. What is the meaning of denier? Why change denier? Why talk about it? Why consider it?

Well, 4,464,528 yards of one-denier equals one pound. If you had that same yardage equaling two pounds you would have two-denier, and so on. Notice that it says nothing about the size, the diameter, of that fiber. It does not matter what the diameter is. The diameter of that fiber will be governed by, for one thing, its specific gravity. If you have reasonably heavy or high specific gravity, like viscose, the diameter is small. With lighter specific gravity, as in Chemstrand, nylon, and so forth, the diameter is large. That is important to remember in weaving. One-denier is fine; three-denier is coarser, and so forth; it goes on up until you get into rug size, which is very coarse. So remember that denier is not directly proportional to the

cross-sectional area of the fiber or to the diameter of the fiber.

Viscose, for instance, has a specific gravity of 1.5; acetate 1.3. Nylon, as I said before, is slightly lighter—1.17. The specific gravity of wool is 1.3 and that of Chemstrand 1.35.

As for denier, let's take the rough denier size, so as to get one picture in your minds. Cotton is somewhere between 1.5 denier and three-denier, in comparison to viscose and acetate. Wools go up to somewhere around five, six and seven-denier. In other words, wool is coarse; cotton is very fine. In synthetics you can get any denier you want and any length you want. That is a tremendous advantage. We can engineer the yarn.

Speaking about fiber length, what determines the length that you would choose to put in a given fabric? You can have any length you want. Are you going to put in cotton length, wool length, or what? How do you determine it? In the beginning, way back, the machinery determined what length was satisfactory to use. Synthetics were not important enough to have any machinery built to their specifications, so they chopped it off at something like $1\frac{7}{8}$ -inch, comparable to cotton. The deniers were made comparable to cotton except for the little bit that went into the silk system and the wool system. The last time I had any figures, however, about 50 per cent of the fibers being used went into 1½-inch length, 37 per cent into two-inch length and 12 per cent into 2½-inch length. There are not many going up above those lengths. All too often they are too short, in combination with too fine a denier. But the wool people took longer lengths and coarser deniers a long time back and made beautiful fabrics. Why didn't we use any of them? The economics were not right; it cost too much to make them. But, with wool getting scarce and machinery being built for the synthetics, manufacturers are really thinking about those long lengths—four or five inches. They are beginning really to compete with worsted and are going to have some really lovely fabrics that will compete with anything the wool people can put out.

The end-use should determine what denier you run and what length you run. Coarse denier requires long lengths for spinnability. That is natural. You cannot take a short,

Piedmont Division S.T.A.

F. M. Johnson, research director for the Rhodhiss, N. C., plant of Pacific Mills, and Thomas L. Carroll of Charlotte, N. C., representative of the National Cotton Council, were the principle speakers May 7 at the Spring meeting of the Piedmont Division of the Southern Textile Association held at the North Carolina Vocational Textile School at Belmont, N. C. Presiding at the meeting was Divisional Chairman Marshall H. Rhyne, general superintendent of Chronicle Mills, Imperial Yarn Mills and Stowe Spinning Co. of Belmont.

"Synthetic Fibers" was the topic for Mr. Johnson's address and an extracted report of his discussion accompanies this article. Mr. Carroll compared the Capitalistic, Socialistic and Communist forms of government under the title "Junior Discovers America," in which a father uses tact and logic in setting straight the thinking of his student son who has been influenced by "Professor Pink."

wiry fiber and try to run it, but if you take a short, fine one you can run it. If you put fine deniers and long lengths in the mill what do you get? Neps and fiber breakage. So if you want a crisp fabric with some real hand put some coarse denier in it, because you don't want to put on a suit that looks like a pair of pajamas. For a soft, pliable fabric use a fine denier. Remember that one thing about denier.

I have one general rule for myself. It is this: Pick out the denier you want, the denier that will give you the hand you want or the combination of deniers that will give you the hand you want; and let that denier equal the length in inches, or slightly less; for example, 1½-inch, two-denier; three-inch, four-denier; one-inch cotton, 1½-denier. If four-denier will give you the hand you want, use that length; if 1½-denier will give you the hand you want, use that length. It is just as simple as that.

You will remember, those of you running cotton, that if you are running one-inch cotton, say, you notice that your denier is coarser than that length in inches. The denier is always coarser than the length. The minute you get your length up to your denier you are in the realm of combed cotton, which does not run too well; you get neps.

So two things are accomplished by that; you get the fabric you want and get the running of the plant as you want it. Remember, the crisper the fabric, the greater the wear resistance, and the greater the length the crisper or stiffer the fabric.

We have talked about length of fiber and talked about denier. There are not very many other things you can do. But take nylon, for example; you can change its surface characteristic, its finish. Let's consider that briefly. In cotton you have wax, which grows on it naturally. With wool you have grease—lanolin, most of which you take off. Neither is perfect, and a finish is added. There is too much static in both.

In synthetics finish is one of the most perplexing problems and one far from being solved. Viscose has about 0.4 per cent on it; acetate, 1.25 per cent. Acetate is beginning to change its finishes, after all these years. That is one of the complex parts of running synthetics. It has been said that if you put on a good finish you can run any fibers,

that you can even run pine needles. That is exaggerated, but it serves to illustrate the point.

Different deniers need different finishes, at times. If you get a very coarse denier it is hard to card it. The synthetics all need various amounts of finish, as a lubricant and as an anti-static. The chemical companies have a lot to learn about this matter.

One other thing we could consider is fabric finish. There is a great deal about fabric finish we do not know and a great deal I should like to learn. The finish on fabric, as you know, is tremendously important. One thing that is generally known is that some of these resins that are put on fabrics coat them and give them a good stiff hand. It is a generally accepted fact that the "stuff" used to stiffen fabrics decreases wear. It forms fine little flakes or scales, which are sometimes tough enough to cut the yarn. As I have said, you can change the denier and change the length of the fiber. What more can you do? You can crimp it. A naturally crimped fiber is wool, and if any of you are in the wool game you know how important it is to get the right amount of crimp. It is important in the manufacture of synthetics also.

In conclusion, I want to say that the synthetic industry is growing. We can be proud of it, but we have the chemical industry to thank for much of its progress. It is growing in the number of pounds produced, as well as in quality; and it will make inroads into all textile fields. We have considered fiber length, denier, fiber finish, fabric finish and crimp. If you understand those things you have built a firm foundation. Remember that longer lengths are leading us to newer machines, and one of the new machines is the Pacific converter.

Mother Nature is kind to us; she changes her fibers in an evolutionary process. She changes wool and cotton very slowly. But when man begins to change anything he changes it, as a rule, in a revolutionary way. So I say to you, know your fibers.

Mr. C: I understand you people have done some experimental work and by-passed the card. Have you had success with that?

Mr. Johnson: Success with some fibers and not much success with other fibers. Generally we are not using it, if that answers your question.

Mr. C: Will you break down what your operations are?

Mr. Johnson: Essentially, in our plant at Rhodhiss, we cut the stock—cut it into a lap and card it. That is the way these fabrics were made. That is the way we run the two mills at Rhodhiss.

Mr. D: You said that coarser denier will tend to increase fabric wear. If that is right, with the coarser denier what is the yarn count?

Mr. Johnson: It would be the same count.

Mr. D: How does it affect spinnability?

Mr. Johnson: As your denier gets to a higher number or coarser you get what is called total denier, 5314. In dense yarn you have 531 fibers. To get the number of fibers you divide 531 by 3. That is an important figure to remember. We use it often to determine spinnability. You know way back, when running 1 9/16 or two-inch, we used to say that 77 fibers was the limit to spin. That is true in short lengths. But as you go to longer lengths you can go to a coarser denier per filament, and naturally you do drop down. Does that answer you?

Mr. D: In other words, that is just one of the difficulties that synthetics have to overcome?

Mr. Johnson: Yes. For instance, the limit of spinning for five-denier used to be somewhere around five, with a length of five inches. As you push up denier you can increase length.

Mr. E: You do have an optimum point there, do you not? You do have a limit?

Mr. Johnson: Yes, you do have a limit. You get the length up to where it is difficult to handle. So there is a limit.

Mr. F: I believe you said increasing the staple length or using



At the Spring meeting of the Piedmont Division, Southern Textile Association, left to right: Speaker Thomas L. Carroll of the National Cotton Council, Speaker F. M. Johnson of Pacific Mills, and Chairman Marshall Rhyne, general superintendent of Chronicle Mills, Stowe Spinning Co., and Imperial Yarn Mills at Belmont, N. C.

a coarser denier would each give you more wearability in fabric, did you not?

Mr. Johnson: That is right. Or small amounts of nylon, and by small amounts I mean amounts down around the five or ten per cent mark. I do not believe in putting in fifteen per cent nylon. And I do not mean you get double or triple the wearing life. It is small.

Mr. E: When you spoke of wearability were you speaking of surface abrasion?

Mr. Johnson: When I gave my example I was speaking of actual wear, for the same size yarns.

Mr. E: Since you have fewer fibers with coarser denier, is there less yarn strength?

Mr. Johnson: Not necessarily. It just depends on how fine you go. You can, say, go from three to five denier.

Mr. E: With the same size yarn?

Mr. Johnson: What you do normally, there, is go to the five-inch length.

Mr. E: Yes, but I mean the same length.

Mr. Johnson: As you go up in denier down goes skein strength.

Mr. E: All those factors enter in?

Mr. Johnson: Yes, when you are dealing with reasonably long lengths. At Rhodhiss we started with three, and when you get it in your fabric it is reasonably well locked in. It is not like cotton, where you need to put in increased twist.

Mr. G: What is the effect of twist on denier? Do you need more twist in a coarse denier?

Mr. Johnson: You would need more twist for optimum strength in a coarse denier.

Mr. H: How would you stabilize with coarser denier, longer length? Would you give stabilization, or would you still have to apply something?

Mr. Johnson: I think you could stabilize it reasonably well without putting on any finish. I am not a finishing man. I have heard people say that is not true, but I do not think anybody knows. It is a field of knowledge we are just slowly breaking into, the way I see it.

Mr. J: You touched on dyeing. Would you elaborate a little on that? What effect does dyeing have on the finish that is already on the stock, and how can you determine the proper finish to apply?

Mr. Johnson: I do not think I can answer that really well, not being an expert finisher. But you certainly do get a conglomeration by the time you get two or three different fibers, some with one finish on them and some with more than one. You put tints on in the mill and then size it and then start to take all that out. You do not know whether you get all of it out or what gets in the fiber and stays there. It is hard to tell how much of the dye stays there by the time you put on something else to get crease resistance, and so on.

Luncheon For J. P. Stevens Directors

On Thursday, July 12, the directors of J. P. Stevens & Co. were given an elaborate luncheon at the Greensboro (N. C.) Country Club. The hosts were the Greensboro Chamber of Commerce and Greensboro Industries, Inc.

A number of prominent citizens of North Carolina were special guests at the luncheon and David Clark, editor of the *TEXTILE BULLETIN*, was included. The board of directors met in the very handsome office building which has recently been erected in Greensboro by J. P. Stevens Co.

At noon they went to the Greensboro Country Club where they were met and welcomed by many Greensboro citizens.

The toastmaster at the luncheon was Stark S. Dillard of the Dillard Paper Co. of Greensboro. The officers and directors of J. P. Stevens & Co. were welcomed by a short address by a number of Greensboro citizens including Herman Cone who was introduced by Toastmaster Dillard as "Greensboro's No. 1 citizen." Responses to the address of welcome were made by W. J. (Nick) Carter of Greensboro, head of the Carter Fabrics Division and executive vice-president of J. P. Stevens & Co., and by Robert T. Stevens of New York, president of the company. The

luncheon was extended as an expression of affection to J. P. Stevens & Co. for the location of their offices in Greensboro and was a most happy affair.

Harry Reimer Given Award

Harry Reimer, the widely known and popular representative of the Daily News Record of New York, was recently given an award by the Army. It was in the form of a certificate of appreciation.



The citation was for patriotic services rendered and read as follows:

Harry Reimer, news editor and civic leader, for outstanding and conspicuous patriotic service to the Department of the Army. With outbreak of hostilities in World War II and continuing to the present, Mr. Reimer did materially assist the Quartermaster General of the Army by informing industry of the future needs of the military and his assistance greatly facilitated the securing of urgently needed items without loss of time. Through his untiring efforts business and procurement personnel were able to meet critical Army requirements during difficult times. As a newsman he surveyed equipment and military requirements and advised and counselled the Quartermaster General on improvements and changes in various items of issue.

His interest in the Army and in the military procurement program aided greatly a favorable public opinion and his continued efforts have been beneficial to the entire military establishment and merits the recognition of his fellow Americans and the thanks and appreciation of the Department of the Army.

The handsome certificate given Mr. Reimer read as follows:

FOR
PATRIOTIC CIVILIAN SERVICE
TO
THE DEPARTMENT OF THE ARMY
Harry Reimer
is hereby presented this
CERTIFICATE OF APPRECIATION
Washington, D. C.
29 June, 1951

Secretary of the Army
Frank Pace, Jr.

Textile Hall Corp. Re-Elects J. H. Woodside

James H. Woodside was re-elected president and treasurer of Textile Hall Corp., Greenville, S. C., at the annual meeting of the board of directors June 27. The following directors were elected for the coming year: John W. Arrington, Jr., Sydney Bruce, W. W. Carter, C. E. Hatch, Edwin Howard, E. S. McKissick, W. W. Pate, Ernest Patton, W. G. Sirrine, F. W. Symmes, Harold R. Turner, James H. Woodside, Greenville, S. C.; Thurmond Chatham, Elkin, N. C.; Donald Comer, Birmingham, Ala.; Herman Cone, Greensboro, N. C.; R. I. Dalton, B. B. Gossett, Charlotte, N. C.; L. O. Hammett, Honea Path, S. C.; W. S. Montgomery, Spartanburg, S. C., and George M. Wright, Abbeville, S. C.

The other officers who were re-elected are W. G. Sirrine, chairman of the board, W. W. Carter, vice-president, and Miss Bertha M. Green, secretary.

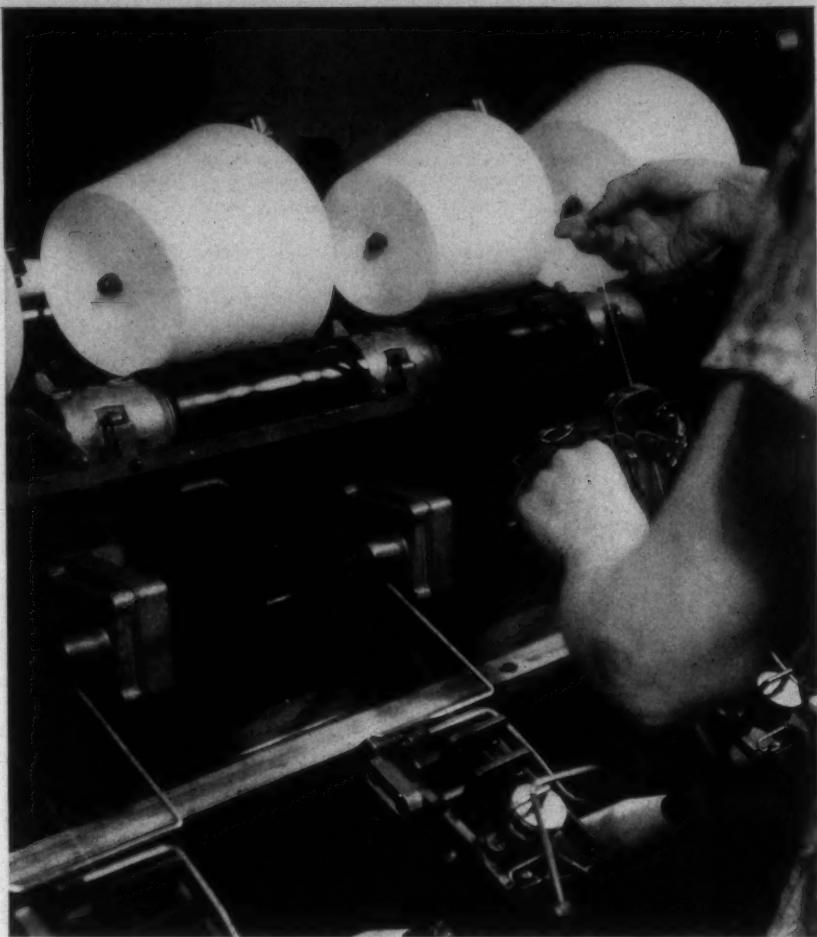
Plans for the 17th Southern Textile Exposition, Oct. 6-11, 1952, are going forward, and the prospectus will be issued this Summer. Correspondence relative to the show should be directed to the office of the corporation in Textile Hall, 322 West Washington Street, Greenville, S. C.

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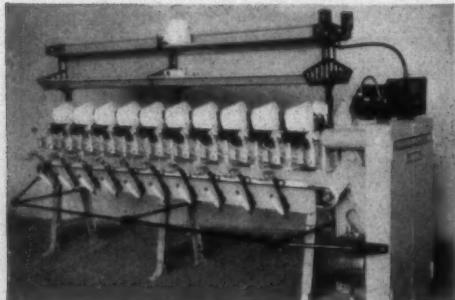
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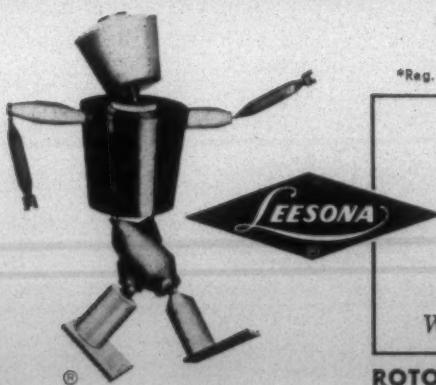
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July, 1951 • TEXTILE BULLETIN

Opening, Picking, Carding & Spinning

THE MILL OF TODAY

By ROBERT Z. WALKER

Part 26, Section A — Production Limitations of Roving Frame

THE roving process has undergone extraordinary changes during the last decade and has emerged as one of the preparatory processes distinctive in the ability to perform the same operation at highly reduced costs. The transition from the use of two, three, or four different roving frames to one or, at the most, two processes has already been discussed. The economic advantages of this reduction are readily apparent, as there will be less floor space, less labor, less waste, less power, less capital investment, and less maintenance costs when the fewer processes are utilized. At the same time, it has been pointed out that this shortening of the spinning preparation has been accomplished without the slightest deterioration of yarn or roving quality.

There are several limitations which must be recognized in planning the organization of the roving process. These are the maximum drafts obtainable and maximum spindle speeds possible, both of which are the important factors in planning a balanced unit. The maximum draft of the roving frame will determine the weight of the drawing sliver, so that the number of deliveries of drawing must be balanced to deliver sufficient stock at a certain poundage per unit. The draft of the roving frame will also have to be considered in setting up the specification details of the spinning room, as the roving in the creel of the spinning frame must be fine enough to be reduced to the proper yarn count without exceeding the drafting capacity of the spinning frame. If there is too much reduction required in the roving stage for one process, then it may be necessary to use two stages. However, this alternative method is not necessary today except in very unusual instances.

The limitations imposed upon spindle speeds are due either to the ability of the entire frame to run satisfactorily at high speeds or else upon the capacity of the drafting element to properly maintain fiber control when the spindle has a high number of revolutions per minute. Roving frame speeds have gradually increased over the years as a result of better construction, smoother operation, and the use of anti-friction bearings at points supporting high-speed shafts. The use of long draft on these frames has also permitted higher speeds to be obtained without loss of quality.

The gauge of the roving frame will generally determine the range of speeds, commonly measured by the spindle speed, that is, the speed of the frame is generally denoted by the spindle speed as production is calculated from spindle speed. The maximum spindle speed of a roving frame is limited by its gauges and not by the number of spindles, with the larger gauge frames, such as 12 inches by six inches, running slower than the smaller frames. In checking spindle speeds of various gauges of roving frames, a

machinery manufacturer's catalog of 1920 was compared to the technical manual on roving published at the present time. The comparison showed that in 1920 the standard spindle speed of a 12x6 slubber was rated as 650 revolutions per minute, as against a slightly higher speed of 660 today. This seems to be but a negligible increase, but it must be borne in mind that 12x6 slubbers have not been generally used where only one process of roving is utilized, or where fine counts and fine hank rovings are encountered. The 12x6 and the 11x5½ roving frames have received the least amount of attention from the manufacturers insofar as improving the different sizes of frames are concerned.

A further examination of the two technical data handbooks, one printed in 1920, and the other applying to present equipment, showed an appreciable speed increase in other gauges of frames. In 1920, the 10x5 slubber was given a standard spindle speed of 750 r.p.m.; this same frame is now rated as being capable of maintaining a spindle speed of 900 r.p.m. The 8x4 frame has been given an increased spindle speed of 1,150 r.p.m. as compared to the 1,050 r.p.m. shown in the older catalog.

These figures were then basically confirmed by rendering the same type of comparison of roving frames manufactured by another machinery maker. The two technical data books used in making this differentiation were printed in 1924, and in 1950. The rated spindle speed of the 12x6 slubber was increased from 600 r.p.m. to 650. The speed of the 10x5 slubber was listed in 1924 as being standardized at 750 r.p.m. This speed has since been modified to a higher speed of 1,050 r.p.m. The 8x4 frame was given a speed of 1,000 r.p.m. in 1924, and is presently rated as being capable of satisfactory operation at speeds of 1,150. An interesting feature of the latest technical data released by this last concern is that a range of spindle speeds are given. The range covers 100 r.p.m. for the 12x6 slubber, 200 r.p.m. for the 10x5 slubber, and 300 r.p.m. for the 8x4 frame. A summary of the rated speeds is as follows:

	Manufacturer A		Manufacturer B	
	1920	1950	1924	1950
12"x6"	650	660	600	650 (650- 750)
10"x5"	750	900	750	1,050 (850-1,050)
8"x4"	1,050	1,150	1,000	1,150 (950-1,250)

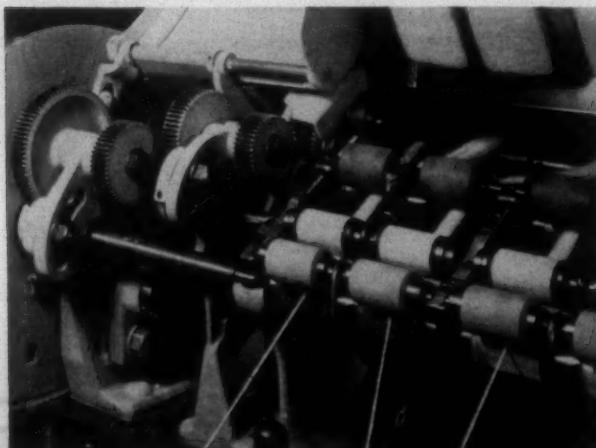
For the purpose of this discussion, the maximum spindle speeds to be used will be those of Manufacturer B; 750 r.p.m. for the 12x6, 1,050 r.p.m. for the 10x5, and 1,150 r.p.m. for the 8x4. These speeds will be accepted as the maximum limit at which the frames may be safely operated. However, this should not be interpreted as an absolute statement of fact that any of the above roving frames can

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not be operated successfully at speeds in excess of those shown. The manufacturer of textile equipment, of any type and any firm, must stand back of the product and must guarantee performance over a long period of time. Therefore, the recommendations and standard rates of performance which are presented by them will be slightly on the conservative side and will be based on such factors as low-cost operation over an extended period of time without serious breakdowns or replacement requirements, and will be founded on the premise that not all of the frames sold and operated will be given the best of care, nor closely maintained under the supervision of the best trained and most skillful fixers and overseers. Without a doubt, the spindle speeds given above have been, and are being, exceeded in a number of mills without suffering the slightest practical injury to either frame or product; but for the practical illustrative purpose of this discussion, the figures may be accepted and used without fear of violating the technical operating principles under which textile mills are managed and planned.

The maximum production of the roving frame is a function of the limits of spindle speed and front roll speed. These two speeds are very closely related and actually are used to determine the maximum speed at which the frame can be operated. It may be stated that the spindle speed is the determining factor in limiting the production on a 100 per cent efficiency basis. The spindle speed in turn must be held within the allowable ranges created by the two major different conditions. First, there is a limit to the spindle speed imposed by the maximum speed at which the working mechanism and sub-assemblies making up the roving frame will operate satisfactorily. This critical speed varies in accordance with the gauge of the frame, decreasing as the frame becomes larger. Secondly, there is a restriction governing the maximum spindle speed which is created by the fact that the front roll of the drafting element cannot be operated at excessive speeds without a serious deterioration in the quality of the roving produced.

It is commonly agreed among textile engineers and technical designers of textile machinery that the maximum speed of the front roll of the drafting element for roving should not be over 600 inches per minute surface speed. Actually, the figure of 600 inches per minute is a conservative figure, and there are mills operating at speeds of 650 inches per



Regardless of the type of drafting elements, the maximum front roll surface speed should be held close to 600 inches per minute.

minute and even higher. The speed of 650 inches may be attained in some careful mills without any harmful effects either upon production or significant efficiency. The general theory with regard to this surface speed limitation is concerned with a very important characteristic of fibers undergoing drafting—inter-fiber friction. The process of drafting is essentially that of pulling forward a percentage of fibers away from other fibers with which they are grouped; the percentage depending upon the amount of draft being applied. The fibers do not slip forward freely from those adjoining, due to the natural convolutions in the surface of the fiber, the degree of finish or smoothness of the skin of the fiber, the amount of relative humidity present in the atmosphere, and to the percent of moisture content contained in the fiber itself. The resistance to slip, or the inter-fiber friction, becomes more manifest as the speed of the entire drafting process increases. Of course, as front roll speed increases, all component rolls of the drafting element must be increased in order to maintain the same draft. The friction increases until a critical point is reached at which static electricity and other forces begin to successfully oppose and overcome the capacity of the drafting element to maintain fiber control. The loss of fiber control will be evident in the form of increased fly, as the shorter fibers escape from the control of the rolls, and in production of uneven roving as the longer fibers are pulled through the drafting rolls in an erratic manner. It is conceded that this critical speed will vary in accordance with the type of drafting element that is used, in the type and length of fiber being processed, in the amount of draft being employed, in the atmospheric conditions prevailing, and in the quality of the sliver being processed. However, as a general rule, these differences will be too small to be reflected in establishing a standard speed limitation. The figure of 600 inches per minute as the maximum limit of the front bottom drafting roll may be accepted as sensible, conservative, and time-tested.

The relation of spindle speed to front roll speed must be that which will allow the spindle to wind the roving upon the bobbin and at a front roll speed slow enough to permit enough extra revolutions of the flyer and spindle to insert the proper amount of twist in the strand of fibers. Roving is made with twist multipliers ranging, in general practice, from .80 to 1.30. As the actual turns per inch of twist is the product of the twist multiplier and the square root of the hank roving, it will readily be apparent that the number of turns per inch will increase as the count of the roving becomes finer. With the same twist multiplier of 1.20, there will be 1.47 turns per inch of twist for 1.50 hank roving as compared to 2.08 turns for 3.00 hank roving, and 2.55 turns for 4.50 hank roving. A proper calibration and comparison of these facts requires taking into account a number of complex factors; however, fundamentally, it may be stated that the increased turns per inch must be achieved by either increased spindle speed or else the less desirable decrease in front roll speed.

When the twist multiplier of the roving is changed for the same count of roving the number of turns per inch will increase as the twist multiplier becomes greater. This is the usual problem in the mill attempting to produce the greatest amount of roving per spindle, when it is necessary to change the twist multiplier for any reason. For 1.50 roving, the number of turns per inch will be .98 when the low twist multiplier of .80 is used, increases to 1.23 turns



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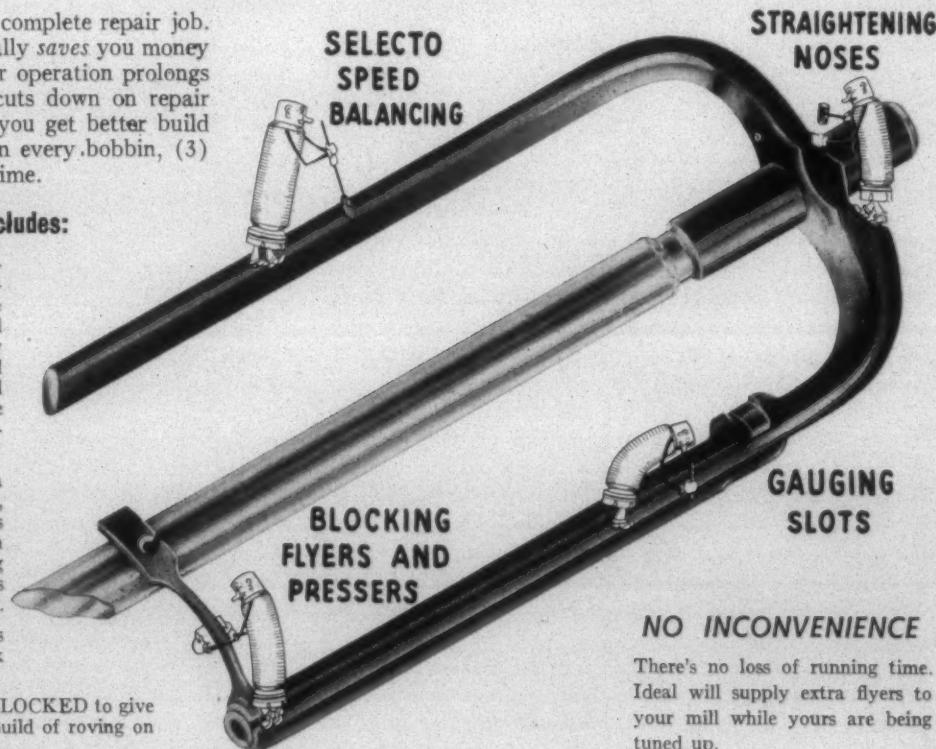
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when a 1.00 twist multiplier is required, and ranges further up through 1.35 t.p.i. for a 1.10 twist multiplier to 1.59 t.p.i. if the twist multiplier is 1.30. This means that the frame will have to be adjusted to produce the added turns per inch of the higher twist multipliers by either speeding up the spindle or else slowing down the front roll. Increasing the spindle speed permits retaining the previous production whereas reducing the front roll speed so that the number of spindle revolutions will insert the necessary amount of twist, decreases the number of inches delivered, and therefore, causes a drop in potential production. It is here, in determining the method to follow successfully and to the greatest advantage, that a full knowledge and understanding of the roving frame limitations is required.

Naturally the mill management is anxious to make the change without sacrificing production. Therefore, it will be natural to determine first of all if the spindle speed can theoretically be increased sufficiently to compensate fully or in part for the added ratio between the spindle and front roll. It may be that the entire change will have to be a compromise and the spindle speed will be increased as much as possible with the remainder of the change accounted for by the reduction in front roll speed.

As an example, assume that a specific hank roving is being made. This roving could be of a synthetic fiber, of long staple length, and the twist multiplier could be raised from .80 to .90. Or, it could be cotton with the original twist multiplier of 1.10 being increased to 1.20 or higher. Twist multipliers are often changed when existing conditions indicate that increased twist would be beneficial to the quality or spinning efficiency of the finished yarn. At times, the increased number of turns per inch will increase the strength of the roving to prevent stretching, or to prevent the pull of the strand in the creel of the spinning frame from breaking down the end in the back of the drafting element. At other times the increased twist will increase the fiber control as the roving is drafted by long draft methods during spinning.

With heavy hank rovings the frame size should be large, as this coarse roving is strong enough to withstand the greater stresses and strains of big flyers and greater traveling distances, and as the machine efficiency will be higher on large gauge frames due to longer doffing intervals. There are definite limitations with regard to the ranges of roving sizes which can be made on a given gauge of frame; however, the various factors determining the limitations are rather complex.

In order to illustrate the change in restriction from front roll speed to spindle speed in limiting production, a comparative chart has been worked out showing the range of spindle speeds, and maximum roll and spindle speeds, for 1.50, 3.00, and 4.50 hank roving with different twist multipliers. The charts are only for purposes of this discussion to indicate whether one factor or the other places a limitation upon maximum production, and how it may be necessary to compromise and adjust both factors in order to extract the maximum production in some instances.

Summarizing these charts, as the twist multiple is increased for a given hank roving, the strength will be increased, and therefore, a higher spindle speed may be used. However, as the twist multiple is increased, either the spindle speed must be increased or the front roll speed de-

creased. In some instances, the charts will show that the maximum spindle speed cannot be used, as the front roll speed will be too high, particularly in the coarser counts. As the roving becomes finer, and more turns per inch are inserted, the required spindle speed, at the maximum front roll speed, is over the capabilities of the machine, and therefore, the front roll speed will have to be lowered to fit the highest spindle speed allowed by the frame.

1.50 Hank Roving (10"x5" or 11"x5½")

T.M.	T.P.I.	Range of Spindle Speeds	Required Front Roll Surface Speed at Max. Spindle Speed	Required Spindle Speed at Max. Roll Speed of 600" per min.
.80	.98	650- 700	715*	594
.90	1.10	650- 750	682*	660
1.00	1.23	650- 850	692*	738
1.10	1.35	650- 950	634*	810
1.20	1.47	650-1,050	715*	882
1.30	1.59	650-1,100	845*	954

3.00 Hank Roving (10"x5")

.80	1.39	650- 900	640*	834
.90	1.56	650-1,000	641*	936
1.00	1.73	650-1,150	665*	1,055
1.10	1.91	650-1,250	654*	1,165
1.20	2.08	650-1,250	601	1,268**
1.30	2.25	650-1,250	555	1,371**

4.50 Hank Roving (9"x4½" or 8"x4")

.80	1.70	650-1,050	614*	1,020
.90	1.91	700-1,200	628*	1,148
1.00	2.12	750-1,250	590	1,272**
1.10	2.33	850-1,250	537	1,400**
1.20	2.55	900-1,250	490	1,530**
1.30	2.76	1,000-1,250	453	1,658**

*Front roll speed is limiting factor

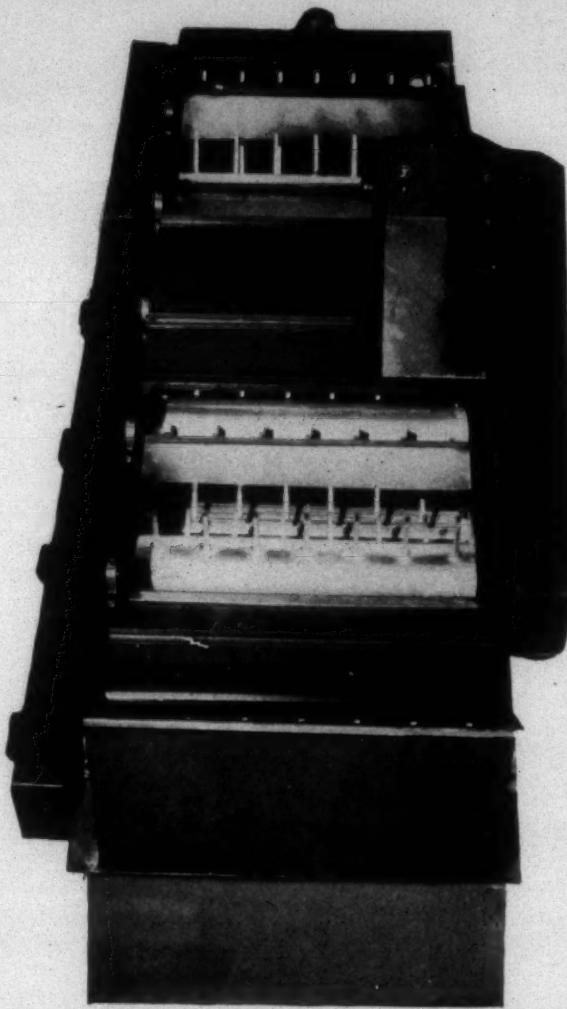
**Spindle speed is limiting factor

N.P.A. Combed Cotton Sales Yarn Advisors

The National Production Authority, U. S. Department of Commerce, recently announced the membership list of the combed cotton sales yarn industry advisory committee as follows: J. Harold Lineberger, treasurer, Acme Spinning Co., Belmont, N. C.; Percy S. Howe, Jr., president, American Thread Co., New York; R. S. Dickson, chairman and president, American Yarn and Processing Co., Mount Holly, N. C.; Ben R. Rudisill, president, Carlton Yarn Mills, Cherryville, N. C.; Frank W. Lyman, president and treasurer, Fitchburg (Mass.) Yarn Co.; George W. Boys, president and treasurer, Green River Mills, Tuxedo, N. C.; Fred L. Smyre, Jr., president, A. M. Smyre Mfg. Co., Gastonia, N. C.; Shannon M. Gamble, vice-president, Standard Coosa-Thatcher Co., Chattanooga, Tenn.; R. D. Hall, secretary and assistant treasurer, Stowe Thread Co., Belmont, N. C.; A. G. Myers, president, Textiles, Inc., Gastonia, N. C.; and Hearne Swink, vice-president and secretary, Wissacott Mills Co., Albemarle, N. C.

Leaders of the cotton and synthetic fibers and sales yarn industries met June 19 with officials of the New York Quartermaster Procurement Agency. The meeting was sponsored by the Quartermaster Association as part of its program of Quartermaster Corps-industry co-operation, and was attended by members of the cotton and synthetic branches, fibers and sales yarn division of the association's textiles and knitted goods industrial group.

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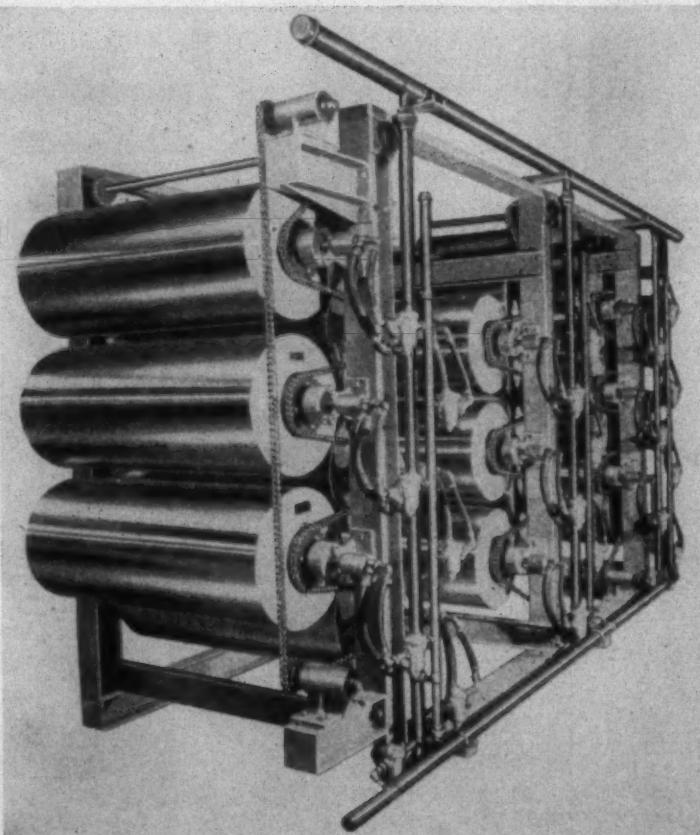
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By FRANK D. HERRING

Part 26 – Filling Breakage While Loom Is Running

FILLING breakage is one of our biggest, and most difficult problems with which we have to contend in the weave room. It is difficult to control because there are so many things which contribute to it. Constant vigilance is required on the part of the weaver, loom fixer, and supervisory personnel in order to keep it under control, and it can be controlled.

Thin places and mispicks in cloth are the direct results from filling breakage, and these two imperfections constitute a majority of the causes for short lengths and seconds in most of the cloth woven on automatic looms. Effective supervision consists of being able to delegate authority and fix responsibility where they belong, and then carry through on it. Responsibility for imperfections in cloth should be placed on the weaver, and the weaver should be instructed and trained when not to run a loom; unless they do have this knowledge they are not properly trained weavers. When a loom is breaking filling the weaver should flag it for the loom fixer, and after a reasonable trial has been given the fixer the loom is not fixed the weaver should report it to whomever is delegated the responsibility of having the loom fixed, and this party should act immediately on the matter, because this gives protection and fair treatment to the weaver. Of course the loom fixer should be trained to fix the loom when it is breaking filling, but it makes little difference how well the fixer is trained unless he gets full co-operation from the weaver.

(I very often refer to the supervisor, or supervisory personnel, and I would like to clarify just what I mean when I make these references. I am speaking of the department heads, the overseer, or foreman, and the men under his charge in whom he vests certain authorities, second hands, head loom fixers, etc., to assist him in getting the job done. The overseer should give the orders to these assistants, and he should also accept full responsibility for their actions. Over-all policies should be formulated by the top-level management, the men over the overseer, and the overseer should plan the actions and procedures in his department to work in harmony and full accord with these top level policies).

Some filling breakage while loom is running is caused by various types of bad filling, or improperly spun filling from the spinning department, and when this is the case, it should be corrected. My experience has taught me that this constitutes a very small percentage of the filling breakage. If all the looms are breaking filling it is pretty good indication that all the filling is bad, but, if only a few of the looms are breaking filling it is sure indication that these

looms need attention. I would like to impress on the reader's mind that there is absolutely no one fixed rule, or method of procedure which can be followed to control filling breakage, because too many varying control factors are involved. Some of these factors are: number of filling yarn, twist of filling yarn, wind of the yarn on the bobbin, build of the yarn on the bobbin, method of conditioning the filling, length of the filling bobbin, type of shuttle eye being used, speed of loom, etc.

The shuttle travels across the lay at a very high rate of speed, and when it is brought to an abrupt, sudden stop against the picker at the battery end of the loom the filling will pile, or shell off momentarily and become entangled in the shuttle eye, or become partly or completely unthreaded and will break on the next pick or sometimes the second pick afterwards. This causes more filling breakage than any other one thing. This shelling off is much more difficult to control on the coarser filling yarn numbers, because it has a greater tendency to balloon and shell off. High twist filling yarn will also cut more capers in the shuttle than the same number yarn with lower twist, and makes it necessary to arrange the tension differently for satisfactory results. Regular and reverse wind of the yarn on the bobbin presents another, and different problem and makes it necessary to use a different tension arrangement to control the different actions of the yarn in the shuttle. (When I speak of reverse wind I am referring to plied yarn, two or more ply). Reverse wind, or plied filling yarn will run with much less breakage than the single yarns, provided the tensions in the shuttle are properly placed. The plied yarns are stronger, and also have much less tendency to kink and shell off when the shuttle comes to a stop in the shuttle box.

For best results in the weaving department, and this is the pay-off department, all filling yarns should be wound on the filling bobbin reasonably tight, making a firm compact package, otherwise plenty of trouble will be encountered by excessive shelling off, and this condition cannot be controlled with additional tension in the shuttle, because this would only aggravate the trouble. Proof of the above statement is borne out by the fact that re-wound filling will run with less breakage than spun filling, but again, provided the tensions are properly placed, as re-wound filling will balloon in the shuttle much worse than spun filling.

The construction or build of the yarn on the filling bobbin is another determining factor in filling breakage while loom is running. When speaking of the build of the yarn on the bobbin I am referring to the speed the spinning

WARP PREPARATION & WEAVING

frame traverse travels up and down while laying the yarn on the bobbin. If the traverse travels too slow the yarn will be piled onto the bobbin in such a way that it will sluff, or shell off more readily while loom is running. The traverse should always travel up slow and down fast, because if the traverse travels down slow the yarn will be pulled off against the shoulder, or pile of yarn while loom is running, and this condition will greatly increase the shelling off of the yarn, and of course increase filling breakage. The length of the traverse determines the length of the taper of the yarn bobbin, and if the taper is too short the shelling off will be increased. The yarn should always be wound onto the bobbin under sufficient tension to make a reasonably firm package, otherwise the sluffing and shelling off of the filling yarn will be greatly increased.

Regardless of filling yarn numbers, twist, build and other considerations, all single spun filling will give much less trouble in the shuttle while running if it has been properly conditioned, because conditioning of the yarn will set the twist and prevent so much kinking and shelling off. When using rewound or plied filling yarn it is not so important to condition it, but it does help some.

The length of the filling bobbin has a lot to do with filling breakage while loom is running, because the longer bobbins are more difficult to keep tight and lined straight in the shuttle.

Various types and designs of shuttle eyes are in use, and they are all good for some types of filling yarn, but they are not all good for all types of yarn. It has been my experience that the two-tunnel shuttle eyes are best for average conditions. Regarding shuttle eyes, the paramount objective is to choose one which will thread up easily, and then arrange the bristles, or tensions in the shuttle in such a way so as to prevent it from becoming unthreaded while

loom is running. With just a little study and care this can be done.

In order to control filling breakage while loom is running, the speed, or picks per minute which the loom is operating must always be taken into consideration, because the shuttle must be brought to a sudden stop in each shuttle box, and the faster the shuttle is traveling the more the tendency is for the filling yarn to balloon and shell off, and of course this makes it necessary to tie the filling yarn down more securely in order to control this condition.

To control filling breakage while the loom is running, proceed as follows: Examine the shuttle, and if excessively worn it should be replaced with a new one, because a shuttle in this condition cannot be made to box properly, and this is vitally important, and this improper boxing of the shuttle can be caused by many things, such as excessively worn shuttle, worn leathers on the front box plates and the back binders, worn out pickers, pickers not properly paralleled, shuttle boxes not properly adjusted, lay end plates loose or out of alignment with the race plate, excessive power on the pick, harness not set and timed correctly, reed loose or out of line with the back plates, so, the above mentioned things should be checked and the loom run long enough to make sure that the shuttle is boxing properly in both shuttle boxes.

Next, remove the shuttle and place an empty bobbin in it and make sure that the bobbin is held rigidly tight and in perfect alignment in the shuttle. If the shuttle spring or spring strap is worn they should be replaced with a new one, because it is bad practice to try and tighten these parts with paper or card board, because they are not sufficiently durable to withstand the pressure put onto them while loom is running. The bobbin must be tight and in perfect alignment in the shuttle before the tensions, or bristles can be properly placed in relation to the bobbin. (This is another case of doing first things first, it is abso-



Fig. 80



Fig. 82

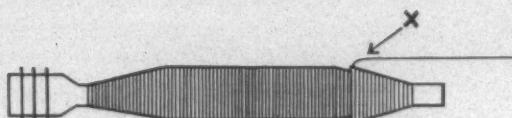


Fig. 84

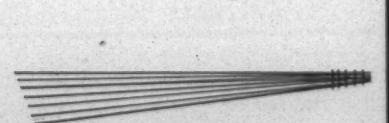


Fig. 86

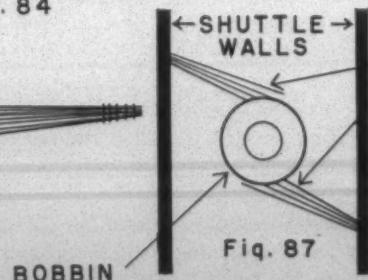


Fig. 87



Fig. 81



Fig. 83



Fig. 85

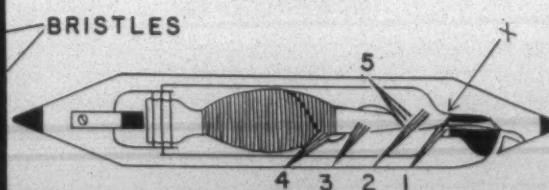


Fig. 88



Competition is rolling faster every day

**...and it begins
in the
WEAVEROOM!**

the individual customer found so many needs for different cloths and clothes. In every corner of the market there is strenuous bidding, *from many sources*, for the biggest share of the customer's dollar. Yes, the track is really jammed!

Never before have the active interests of men and women ranged so far afield. And to live such crowded lives, never has

This market condition puts a premium on well-run weave rooms, equipped with high-speed, convertible C&K Call Box Looms, maintained with Certified C&K Loom Parts. But it requires something even more: *The imaginative use, to fullest extent, of the amazing versatility built into every modern C&K Loom.* Are you getting all there is to get? Glad to go into this matter with you, any time you say.

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lutely necessary to good loom fixing, and in order for a loom fixer to do this, he must think, analyze the job at hand, and keep his thinking a step ahead of what his hands are doing). Any rough, or splintered places on the shuttle, inside or out, should be smoothed and polished off. Make sure that the thread groove in the outside front wall of the shuttle is sufficiently deep to prevent pinching of the filling yarn. A small thread groove, about one-eighth of an inch wide and the same depth near the eye of the shuttle is best, because it will confine the strand of filling in its place, and will help to prevent the shuttle eye from becoming unthreaded while loom is running, and will also hold the filling in the center of the thread cutter slot in the front wall of the shuttle and greatly reduce the chances of the thread cutter knives failing to catch and cut the strand of filling on the transfer.

Positioning the Bristles, or Tensions

Bristles are put in shuttles for two reasons, *first*, to exert sufficient tension on the strand of filling yarn to hold it taut and in place in the shuttle eye, and *second*, to prevent ballooning and shelling off of the filling when the shuttle is stopped in the right hand shuttle box. The filling does not shell off when the shuttle is stopped in the left-hand shuttle box, because the shuttle eye is on the opposite end of the shuttle from the picker, and the natural momentum of the unwinding filling is against the taper of the yarn on the bobbin. The filling does not balloon enough to cause filling breakage while the shuttle is in passage across the lay, but it comes off of the bobbin in a series of small balloons, as shown in Fig. 81, but unless these small balloons are controlled, or stopped when the shuttle stops in the right hand box they will continue to pile off into the shuttle eye and either become entangled or become completely unthreaded out of the eye and broken on the first or second pick thereafter.

As previously mentioned, there are a number of things which contribute to filling breakage while loom is running, and the best approach to the subject is to study the problems involved and learn the various characteristics of the filling yarn and then place the bristles in the shuttle in such a way as to control the strand of filling from the bobbin through the shuttle eye. The bristles should never be secured in place in the shuttle walls with pegs, as the pegs will come loose and allow the bristles to lose out and sometimes make seconds before the trouble is detected. An eighth-inch drill should be used for drilling the holes in the shuttle walls for the bristles, and the holes should be drilled on about 45° angles. Shown in Fig. 86 is a bunch of hair bristles with filling yarn wrapped around the small ends of the hair, the ends away from the hide; this will enable the fixer to put the wrapped ends of the bristle through the hole in shuttle wall and then pull the bunch of bristles in place with a pair of pliers. In this way the bristles can be pulled in sufficiently tight to secure them and prevent them from losing out while loom is running, and by using this method there is no danger of splitting the shuttle walls, as is sometimes done when using pegs.

A shuttle equipped with two bristles is necessary on all types and numbers of filling, and they usually come from the shuttle manufacturer with only these two bristles. The

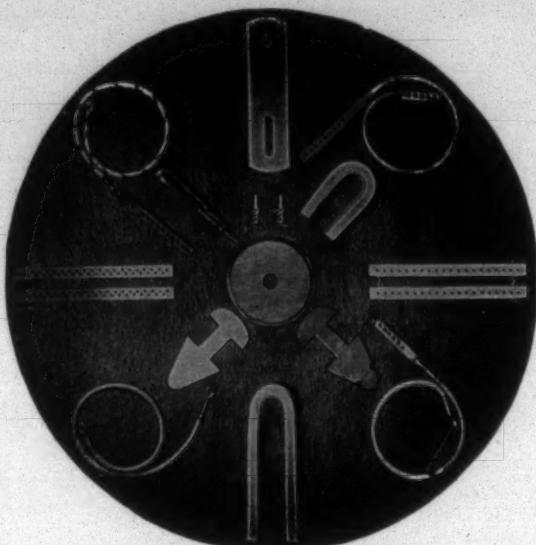
primary function of these two bristles is to tie the strand of filling yarn down near the end of the bobbin and prevent the slackening of the yarn in the shuttle eye. Fig. 80 shows what will happen when the shuttle is stopped in the right hand shuttle box if there are no bristles in the shuttle. On fine numbers, above 10s, these two bristles will be sufficient to control the filling and prevent breakage, provided the yarn contains no higher than standard twist, and also provided the bristles are properly placed. These two bristles should be placed so as to exert pressure on the top and bottom of the bobbin, as shown in Fig. 87. These bristles should be pulled into the holes as tight as possible, and then cut off even with each side of the bobbin. A pair of small scissors should be used for this work, as it is impossible to do a good job with a pocket knife. If these bristles are allowed to extend too far past the side of the bobbin the filling will sometimes loop on them and become broken.

An empty bobbin should always be placed in the shuttle before the holes are drilled for the bristles, because the top and bottom of the bobbin must be used as a guide to point the drill, otherwise it is plain guess work, and of course this would be bad and very ineffective loom fixing.

Shown in Fig. 88 is a shuttle bristled up in such a way as to effectively control the filling and prevent breakage on the coarser numbers of yarn and other varying conditions provided they are properly placed and of the correct sizes. The number one bristle should be pointed about one-eighth of an inch below the top of the bobbin, and should extend across to the opposite shuttle wall, and as shown, it should be placed past the tip end of the bobbin and as near the shuttle eye as possible, it should be placed at an angle, and not straight across, or at right angle with the shuttle. This bristle will act as an aid in threading the strand of yarn after the transfer is made, and will also be a great help in preventing the eye from coming unthreaded while loom is running. The natural unwinding of the filling from the bobbin will force the strand of filling around the end and beneath this bristle on the first pick out after the transfer, and when the strand of yarn is underneath this bristle it is trapped, because the end of the bristle extends past the thread tunnels in the shuttle eye. The numbers two and five bristles should be placed near the end, top and bottom, of the bobbin as previously stated. These two bristles perform a dual purpose—they furnish the friction on the bobbin which transmits the required tension on the strand filling, and they also prevent any shelled off yarn from piling into the shuttle eye when the shuttle stops in the right hand shuttle box. Bristles No. 3 and 4 act as safe guards and aids in breaking the ballooning and shelling off, and one or both of them are necessary on heavy yarn numbers and most of the plied fillings. These two bristles should be placed a little higher in the shuttle wall than the Nos. 2 and 5, and the tip ends of them should just barely touch the empty bobbin, and they should be cut to extend about half way across the bobbin, as shown in Fig. 88. The Nos. 3 and 4 bristles should always be placed to extend over the top of the bobbin in the shuttle. Only the No. 5 bristle should be in contact with the bottom of the bobbin. The hole for No. 3 should be drilled one inch back from No. 2, and No. 4 should be one inch back from No. 3. This is of vital importance, because if tension is put on the front taper of the yarn on the bobbin, as shown in Fig. 88, bristle No. 4, after the yarn starts winding off

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from the back taper of the yarn on the bobbin the strand of yarn will become locked and cause breakage.

A close study of Fig. 81 will clearly show what I mean by the yarn becoming locked and broken. It can be seen that the strand of yarn could easily be locked behind the yarn of the bunch and broken if it was tied down by bristles back too near the bunch. This same thing could happen when the yarn is being wound off the back taper of the yarn build, and this condition would be aggravated when using a bobbin of yarn with a short taper, or build as shown in Fig. 83, taper is indicated by "X" mark in Fig. 83, shown in Fig. 82 is a bobbin with a long taper of the yarn, and this is ideal from the weaver's standpoint, because less breakage will be had while loom is running, due to the fact that the yarns will not have the tendency to shell off from the front taper or become trapped on the back taper. Fig. 85 shows a bobbin of yarn with the spinning traverse moving up slow and down fast. The yarn from this bobbin will not give excessive trouble shelling off, because the strand of yarn is being pulled away from the pile, or build-up. Shown in Fig. 84 is a bobbin built with the traverse moving up fast and down slow, and this creates an almost impossible condition for the weaver because the strand of yarn is being pulled off over and against the pile, indicated by "X" mark.

I would like to emphasize the fact that I do not recommend that all of the five bristles shown in the shuttle in Fig. 88 be used on all filling yarn numbers below No. 10s. I recommend this for the most difficult cases, such as, coarse numbers, high twist, high speed, etc. And under these conditions I would recommend that the bristles be put in as large as the eighth-inch holes will accommodate. In some less troublesome cases the Nos. 3 and 4 bristles might be dispensed with, or at least some or all the bristles cut down in size to reduce the tension. Should it be necessary to reduce the size of the bristles they should be pulled in as already prescribed and then cut a portion of them off, using a pocket knife, up close against the inside wall of the shuttle.

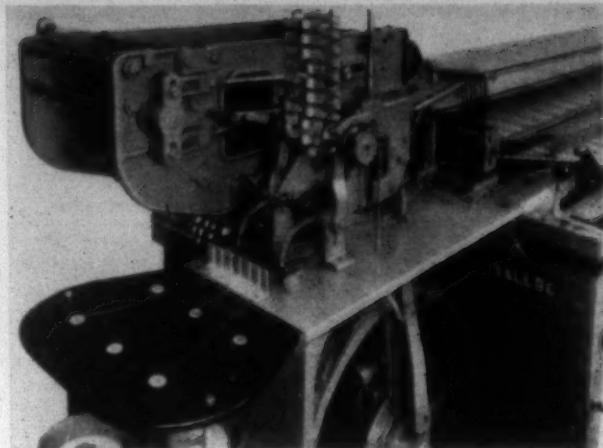
Of course, when using reverse wound filling the bristles will have to be reversed, five in the back wall of the shuttle and one in the front wall. I have found it very good practice for the supervisor to determine just how he wants the bristles placed in the shuttles, and then designate one man to do the job before the shuttles are given out to the fixers. This is the surest way to get it done satisfactory, and this job is too important to be left to a group of men, part of whom will surely do a haphazard job of it.

The Balle SND2-M Loom

Among the machines shown at the International Textile Exposition at Lille, France, April 28 to May 20 was the Balle Loom which has its filling fed from cones of yarn. The loom is manufactured by Societe de Constructions Mechaniques, Balle, and Boulevard de Vanguard, Paris, France.

In their catalogue they describe the loom as follows (woof as used by them means "filling.")

The loom shown has been planned specially for the semi-heavy articles (draperies, plain and Scotch, felt, soles, special tissues, etc.).



A double woof introducer, in flexible steel blade is controlled by intermittent pulleys with ball bearings.

A distributor selects six different woofs on each side of the loom coming from a chest composed of six large compartments. The alternative movement of the woof forms a faultless weave of the selvage.

Hydro-pneumatic jacks, fed by compressor, give a constant pressure to the sheets of threads from the beginning to the end of the lap roller with individual adjustment on each loom.

A positive regulator controlled by a ratchet, pawl and endless screw with one or two threads gives all the densities of the weft.

The type SND2-M loom is equipped with a dobby for 24 closed shed shafts, without archivolt, without leathers or strings. A rigid suspension of the frames (patented) allows an easy exchange of the blades. A jacquard system can be substituted for the dobby, at the request of the client.

A circuit-breaker controls the starting and the stopping of the loom which is operated by a $\frac{3}{4}$ -h.p. or a 1½-h.p. motor, according to the articles manufactured, without the necessity of a clutch or of brakes. There is no buffer-stop (positive control). The loom stops instantaneously.

A double weft stop motion (patented) causes the loom to stop immediately. The motor is disconnected. A signal red or green indicates the side where the woof is broken.

An electric warp stop motion, of improved design, is supplied with each loom.

The cut represents one of the woof distributors, cording side.

The pawl controlling the distributing cylinder can be immobilized to replace the exhausted spools in full motion.

Among recent patents granted Carolinians, according to Paul B. Eaton, is the following: Patent No. 2,524,443 has been issued to Coy L. Huffman, of Greenville, S. C., for an improved picker mounting in looms. This invention provides means for securely fastening a picker to the upper end of the picker stick in adjusted position whereby the picker can be adjusted in different positions either up or down the picker stick in minute amounts without in any way affecting the secure adjustment of the same. The upper front surface of the picker stick is provided with a vertically disposed groove. When the picker is fitted on the picker stick, a screw is threadably mounted in the groove in the picker stick which will cut its own threads in the picker and will at the same time become imbedded in the rear portion of the front half of the picker stick.

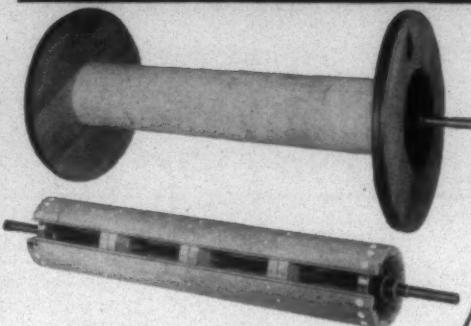
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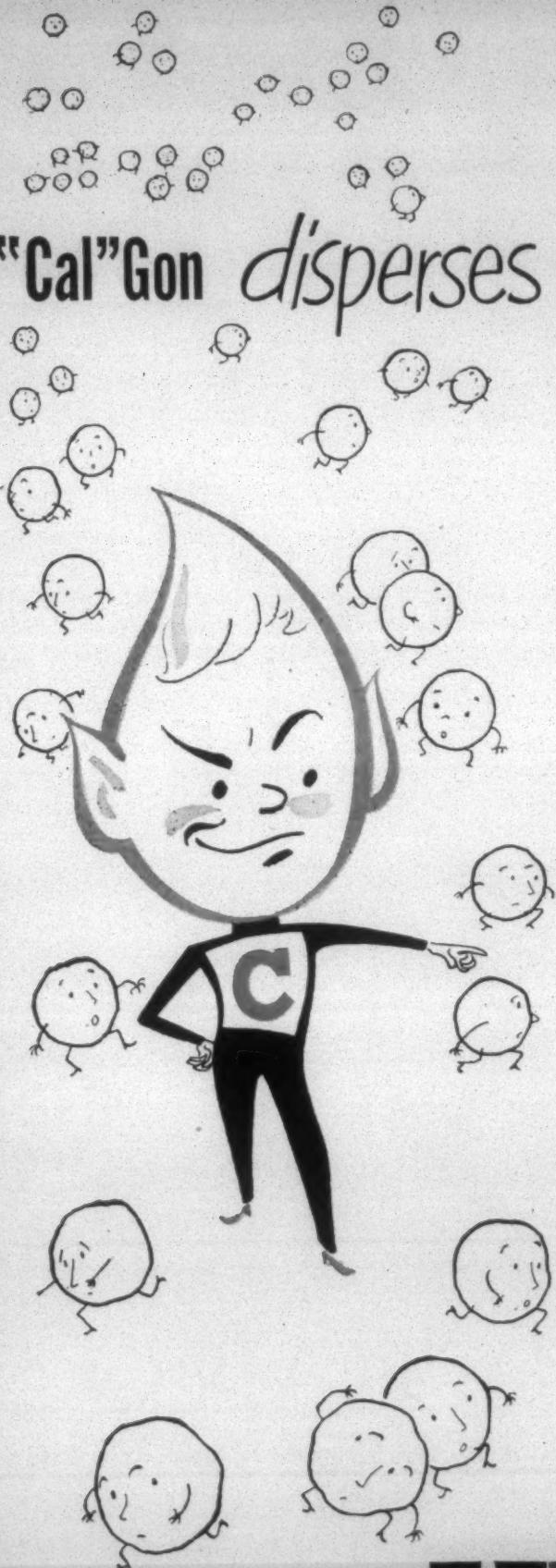
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"Cal" Gon disperses

IT WAS like Times Square on New Year's Eve — individual particles agglomerated into a mass so thick that movement was barely possible. "Observe," said the chemist, "this very stiff mixture of titanium oxide containing 60% of solids." Cal and his brothers-in-arms awaiting their part in this demonstration were having difficulty keeping their balance on the spatula in the chemist's hand.

Mob of Pigments



"ON THIS SPATULA I have some tiny glassy particles of Calgon®," three parts per thousand parts of pigment, to be exact. Watch what happens when I mix them into this paste of titanium oxide, now too thick to flow." Cal was suddenly dropped into space.

Before he could yell "molecularly dehydrated phosphate" he found himself jostling a mob of particles being churned this way and that by the chemist's spatula.

AS CAL and his brothers merged into the crowd, clasped tightly to the lattice of each pigment particle, the chemist went on, "Could we observe what is happening at the surface of each particle, we would find that the ions of the complex phosphate are adsorbed on the surface of the solid particles."

"Adsorbed is it?" boasted Cal. "They are under my control." And with that made the pigment particles shift and scatter and flow until they were rolling over and over in all directions.



"YOU WILL NOTE that the initially stiff paste is now almost fluid as water, although the solids content has remained unchanged," the chemist went on. "Here we have observed the unusually effective dispersive action of Calgon, put to good use in dispersing pigments in the finishing of textile fabrics."

One of the foremen at this class in the foreman's educational program remarked, "That is why we use Calgon in the delustering of rayon fabrics, to prevent those white spots we used to get."

THE CHEMIST pouring the thin slurry from one beaker to another replied, "Yes, and it can be used for any pigments such as clay, calcium carbonate, or colored pigments that may be used in finishing."



Then Cal reminded him, "Don't forget to tell them that I also soften the water in dyeing and control corrosion of the water system."

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Improved Flammability Control

MARKED progress has been made in the reduction of structural fire hazards in homes, factories and public buildings, but it has only been during the past few years that improved flammability control has been extended to textiles. Research during World War II developed the use of antimony oxide for the flameproofing of textiles. Tents, tarpaulins, awnings and protective coverings for weapons were treated with a compound containing five to seven per cent of antimony oxide, 15 to 25 per cent of chlorinated paraffin and various percentages of pigment, binders and mildew—weather resisting compositions.

It was found that this composition and treatment was not satisfactory for textiles other than those used for tentage, awnings and other fabrics where "hand" was relatively unimportant. The add-on rate varied from 45 to 60 per cent, based on the dry weight of unfinished fabric. This high rate changed the hand, increased harshness and often gave an oily consistency to the fabric's surface.

Permanence of goods flameproofed by antimony oxide and chlorinated paraffin has been well established. There has been a growing use of this type of treatment for heavy duck, tenting, theater curtains and awning material. It will no doubt be accelerated as additional states pass laws demanding the flameproofing of textiles for these specific uses. Other fabrics such as cottons (sheeting, chenille yarn, twills, ducks, flannels, poplins) and rayons (marquisettes, napped knit fabrics, pluses, napped woven fabrics) require a different treatment, a double bath process. It was found that cotton or rayon when impregnated with titanyl chloride plus antimony trichloride followed by neutralization with an alkali—such as five per cent sodium carbonate produced flame retarded fabrics. Tests showed that such treated fabrics retained their flame retardancy after 100 household launderings.

Long range research by the Pigments Department of E. I. du Pont de Nemours & Co. resulted in the production of "Erifon," a flame retardant comprising an aqueous solution of inorganic salts containing free hydrochloric acid. The active flame retarding constituents are titanium and antimony. "Erifon" is in no sense a coating. It contains no resin, oil or other organic, film forming materials. When properly applied to cellulose fibers such as cotton and rayon, "Erifon" reacts with the cellulose molecule changing it chemically but not physically. Neutralization with a suitable alkali is necessary to insolubilize the compound. Thorough scrubbing is also required to remove the excess reactants and by-products of the reaction.

The most likely explanation of how this process produces flame resistance is that titanium and antimony salts deposited in the fabric change the products of pyrolysis, producing more char and less volatile tars and gases.

An outstanding advantage of such flameproofing is that the treated fabric has a hand about the same as untreated fabric. About the only characteristic of the fabric that is

altered considerably is its affinity to certain dyes. This problem is, however, not serious since suitable dyes can be obtained and used with the process.

It is interesting to note that 95 per cent of the antimony produced in the United States comes from Stibnite, a mining community north of Boise, Idaho. There, the Bradley Mining Co., owners of the Yellow Pine Mine, can produce upwards of 5,000 tons of antimony metal or antimony oxide in a year. This antimony oxide marketed under the brand name of Elk Brand is distributed by Whittaker, Clark & Daniels, Inc., 260 West Broadway, New York 13, N. Y., who have sales rights east of the Mississippi, including St. Louis.

'Fire-Resistive' Dynel Fabric Approved

The New York City Board of Standards and Appeals recently approved a new type of drapery fabric of dynel staple and Vinyon N filament yarns as "fire-resistive" and acceptable for use in decorative materials, draperies and curtains in places of public assembly in New York. The board said that all samples tested melted or fused when contacted with open flame, but there was no flashing, flaming or glow. The fabric approved is a jacquard construction with a filling of dynel, new acrylic staple fiber, and a warp of Vinyon N filament. Dynel and Vinyon N have the same chemical composition; being copolymers of acrylonitrile and vinyl chloride.

In giving the "fire-resistive" rating to the new acrylic fabric, the board stipulated that sewing threads for draperies and other decorative articles should be made of the same materials. The fabric is manufactured in a chevron weave and combines decorative attractiveness with safety and great utility. In addition to its fire resistance, the new fabric is also non-shrinking, non-sagging, washable, quick-drying, long-wearing, mothproof, mildewproof and resistant to acids, alkalies and stains. The synthetic fibers from which the new Hafner Associates fabric is made—dynel staple fiber and Vinyon N filament—are products of Carbide and Carbon Chemicals Co., a division of Union Carbide and Carbon Corp.

A.A.T.C.C. Council Holds 177th Meeting

The 177th council meeting of the American Association of Textile Chemists and Colorists was held at the Hotel New Yorker, New York City, June 26. President C. Norris Rabold and Leonard S. Little, chairman of the executive committee on research, reported to the council on their trip to Europe on behalf of A.A.T.C.C. They attended the Textile Institute Conference at Brighton and the International Standards Organization at Bournemouth, England. At both conferences they took a very active part in the proceedings and brought back about 16 proposed tests that will be

BLEACHING, DYEING & FINISHING

evaluated by the various A.A.T.C.C. committees in hopes of reaching final agreement on same for eventual world standardization. Representatives of 15 different countries were present. At the I.S.O. conference at Bournemouth they were members of the American delegation of technical committee No. 38 headed by William D. Appel, chief of the textile section, National Bureau of Standards. In all their conferences and meetings Mr. Rabold stated that the spirit of co-operation was strikingly noticeable, and that the teams from the various countries were anxious to agree on all important items of the work, even in cases where difficult concessions had to be made. The I.S.O. will meet in New York next June and it is hoped that the A.A.T.C.C. will be able to return some of the many favors and honors paid to Mr. Rabold and Mr. Little by British and Continental friends of A.A.T.C.C.

Mr. Rabold and Mr. Little met with the Society of Dyers and Colorists in Manchester on the subject of the Color Index, a forthcoming technical publication of dyestuffs, jointly edited by the society and the A.A.T.C.C. They also visited on association business in Belgium, Holland, France and Switzerland. In this latter country they continued their discussions with the Swiss committee on color fastness. In Europe it was noted that most tests have been set up to simulate hand rubbing and washing, rather than the mechanical laundry machine simulation that we use here. Probably because of the smaller percentage of home mechanical and commercial laundry machines in use on the Continent. Sunfastness in England is based on actual roof exposure which, in many cases, takes a year to get accurate final light fastness of a dyestuff or fabric, whereas our carbon arc machine produces standard tests in a matter of days, and for the most part can be correlated with actual sun exposure.

The publications committee, Prof. Percival Theel, Philadelphia Textile Institute, chairman, reported to the council that the technical manual and year book would be ready for distribution to association members in September. Leonard S. Little, chairman of the executive committee on research, reported that the association had increased its annual budget for research to \$60,000. Additional equipment and research personnel will be added at the association's laboratory at Lowell (Mass.) Textile Institute.

Frank J. O'Neil, chairman of the intersectional contest committee, advised that eight of the A.A.T.C.C. sections were preparing technical papers for the annual contest at the convention. The students intersectional contest committee, Patrick J. Kennedy of Du Pont, chairman, announced that three papers had been selected and the writers of the three student papers would receive their expenses to the A.A.T.C.C. Fall convention to present their technical studies.

The New York convention committee, Paul J. Luck of Calco Chemical, general chairman, reported good progress with all arrangements completed for the 30th national convention of A.A.T.C.C. which will open Oct. 17 at the Hotel Statler, New York City. The exhibition space has been almost completely sold out and will be the largest the association has ever held. The convention itself will include the presentation of a new honor, the *American Dyestuff Reporter Award*, which will be judged by the publications committee for the best paper published in this official maga-

zine of A.A.T.C.C. each year ending in July. Plans are under way for a large industry symposium at the time of the convention and all details of same will be released at a later date.

The council meeting adjourned with a luncheon at the Hotel New Yorker and was followed in the afternoon by a meeting of the general research committee.

Exposition To Feature A.A.T.C.C. Parley

The largest exposition ever staged devoted to textile wet processing will be a feature of the 30th annual convention of the American Association of Textile Chemists & Colorists slated Oct. 17-19 at the Hotel Statler in New York City. The A.A.T.C.C. is expecting a large majority of its 6,400 members to attend the exposition and conference, with a record attendance anticipated.

Exposition exhibits will include process equipment, dryers, finishing materials, testing and control equipment for the dyeing and finishing of textiles. To provide for display of new fibers and fabrics and garments produced from these, a special exhibit section "The Spectrum Rotunda" has been set aside for such exhibits.

The A.A.T.C.C. exposition will be managed by Campbell-Fairbanks, Inc., which also manages the Knitting Arts Exhibition and the American Textile Machinery Exhibition. Exposition hours for the A.A.T.C.C. event will be: Oct. 17-18, 10 a. m. to 10 a. m.; and Oct. 19, 10 a. m. to 5 p. m.

All in the industry or interested in fabric end-use are invited to view the exhibits. Visitors will be required to register but no fee will be charged.

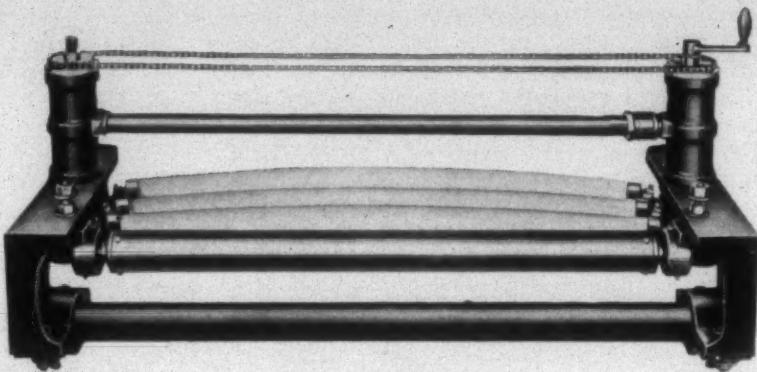
Those already signed up for the fabric and yarn displays which will occupy the area just outside the main ballroom of the hotel are: Celanese Corp. of America (rayons); Joseph Bancroft & Sons Co. (cottons); Union Carbide & Carbon Corp. (Dyne); Owens-Corning Fiberglas Corp. (glass fabrics); Virginia-Carolina Chemical Co. (vicara) and Italviscosa, New York representatives of the Snia Viscosa rayon production of Italy. The new fiber of Chemstrand Corp. also is expected to be exhibited for the first time.

Predict Shortage Of Some Types Of Dyes

Members of the dye industry advisory committee recently informed the National Production Authority, U. S. Department of Commerce, that a shortage of some types of dyes for civilian use may develop this Fall unless the industry gets more raw materials.

A spokesman said the industry has been able to meet increasing defense needs thus far without disrupting the civilian supply largely because the civilian demand has been slack. This slackness developed, he said, because of generally overstocked inventories in many textile goods. The surpluses will be depleted by Fall, however, thus necessitating an accelerated production of textiles which will require the use of more dyes. He said the production of dyes for civilian work-clothing would be hardest hit because this type of clothing requires substantially the same dyes as those used in military clothing. Defense needs have required a high percentage of the total production of these dyes in recent months, he said.

Other industry spokesmen said also that an increase in the production of dyes is limited because of the shortage



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of materials, such as sulfuric acid, phthalic anhydrides and parachlorophenol. They suggested that N.P.A. survey civilian dye requirements and make allocations of sufficient materials to meet essential needs.

N.P.A. said defense requirements are principally for these colors: Brown G, Brown R, Khaki 2G, Olive Green B, Olive R and Olive T. Defense demands have absorbed a heavy share of the total production of these dyes, using more than 80 per cent of Olive R, Olive T and Khaki. N.P.A. advised the committee that a shortage of steel may cause a limitation on the use of steel drums in which dyes are shipped. An order now being considered would require that most dyes be shipped in other types of containers. Because of the possibility of a drum shortage, N.P.A. urged the dye producers to make every effort to encourage their customers to return drums for re-use.

Regarding material shortages, there was general agreement that the shortage of sulfuric acid is the one most likely to hamper dye production, since there is no substitute for it. Two producers said an equally drastic shortage of phthalic anhydrides already has curtailed their dye production.

New Process For Dyeing Glass Fibers

Co-ordination by the research staffs of three companies has resulted finally in the development of a process for the dyeing of fibrous glass without reducing flame resistance and at the same time increasing the wash-fastness, abrasion resistance and all-important drapery qualities of the material. This milestone in the rapidly growing fibrous glass industry was announced by J. Robert Bonnar, technical director of General Dyestuff Corp., who said it resulted from many months of intensive research effort by the G.D.C. staff working in co-operation with General Aniline & Film Corp. and the Owens-Corning Fiberglas Corp.

Interest in the use of glass fiber piece goods for decorative purposes has long been manifested by designers who recognize the broad scope of beautiful effects which could be produced with this fiber, Mr. Bonnar said. This interest was heightened as a result of the occurrence of several fire disasters resulting from the use of inflammable draperies and decorations, he pointed out, and because glass is non-combustible, it is ideal for use as draperies and decorative fabrics. Manufacturers of the fiber have made rapid progress in its production and have been able to weave material of outstanding beauty, but the difficulty of developing a suitable dyeing process has been a principal drawback to the widespread use of these fabrics.

In the meantime, the manufacture of fibrous glass for a multiplicity of uses, where dyeing is of little importance, such as for insulation, to reinforce plastics, industrial papers, tapes and coated fabrics, for kapok in life preservers, etc., has skyrocketed the industry's growth. Owens-Corning Fiberglas Corp., the largest of about a dozen manufacturers, has six factories and its sales reputedly are expected to exceed \$100,000,000 this year.

Now, in Mr. Bonnar's opinion, it is likely that the new fabrics will find many uses in the home as well as in restaurants and public show-places, because while completely fireproof, they will lack none of the essentials—wrinkle and abrasion resistance and wash-fastness—of other ma-

terials. Because Fiberglas has no true affinity for ordinary dyestuffs, Mr. Bonnar said, the early work in coloring presented many problems. Results were finally obtained through the use of pigment colors with resin binders. Such fabrics in most cases, however, had the disadvantage of being too stiff and lacked the draping qualities essential to such materials. However, the resin binders were not completely flame resistant and when some volatile lacquers were applied the material then lost one of its principal assets.

An outstanding step in overcoming these problems was made by the Owens-Corning Fiberglas Corp. Production of piece goods with silk-like softness and drape was accomplished through a new heat cleaning process whereby the woven materials are treated for a matter of seconds at high temperatures. This treatment burns off the sizing, renders the fiber soft and pliable, and permanently sets the crimp which gives it wrinkle-resistance. The development of permanent coloring for this material was the next step and research for this was conducted chiefly at the central research laboratories of General Aniline & Film Corp. With the co-operation of G.D.C. and Owens-Corning research people, the new concepts which hold great promise were worked out.

Affinity of glass piece goods for vat pigments was developed through the cross-linking of methyl-vinyl ether maleic anhydride copolymer, a General Aniline discovery, with polyvinyl alcohol. This process is known as Appretan PF. Modifications of this procedure have not only made possible the production of a line of colors incorporating the good fastness to washing and to light of vat dyestuffs with their brilliance of shade, but Appretan PF was found to act as a binder for other film forming materials such as Teflon, which has been found to increase abrasion resistance without impairing the draping qualities of the material. "We can now foresee the future availability of many fast to light and washing shades which combine beauty with good serviceability," Mr. Bonnar added. The Owens-Corning Fiberglas Corp. is now producing the material for consumer evaluation by the trade.

Souther Heads Piedmont A.A.T.C.C. Unit

R. Hobart Souther of Cone Mills Corp., Greensboro, N. C., was elected chairman of the Piedmont Section, American Association of Textile Chemists and Colorists, at the group's Summer outing June 29-30 at Myrtle Beach, S. C. Formerly vice-chairman of the group, Mr. Souther succeeds Edwin A. Briggs of Southern Franklin Process Co., Greenville, S. C.

J. C. Whitt of Century Hosiery Mills, Burlington, N. C., who served the past year as treasurer, was named vice-chairman. M. M. McCann of Warwick Chemical Co., Burlington, was elected secretary to replace W. Chester Cobb of Arnold, Hoffman & Co., Providence, R. I., and Herman J. Jordan, Wiscasset Mills Co., Albemarle, N. C., was made treasurer, succeeding Mr. Whitt.

Joseph Lindsay, Jr., of the textile chemistry and dyeing department at Clemson (S. C.) College, was elected national councilor, replacing Linton Reynolds of Riegel Textile Corp., Ware Shoals, S. C. A. R. Thompson of Ciba Co., Inc., Charlotte, N. C., was re-elected custodian.

Elected members of the sectional committee were: John S. Beattie, Abbeville (S. C.) Mills Corp.; Wilford Sargent,

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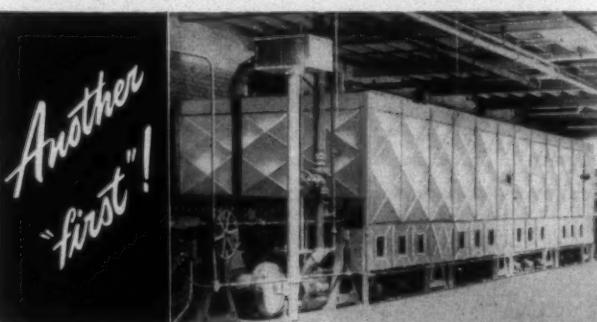
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Scholler Bros., Greenville, S. C.; Clarence Hooper, Burlington Mills Corp., Burlington, and Russell G. Lawrence, Rohm & Haas Co., Charlotte. They replace J. Leon Moore, electrochemicals department, E. I. du Pont de Nemours & Co., Inc., Charlotte; H. J. Jordan, Wiscasset Mills Co., Albemarle, N. C.; W. Carl Wilcoxon, General Dyestuff Corp., Charlotte, and William D. Livingston, American Aniline Products, Inc., Greensboro.

A new student contest committee was appointed including Robert H. Smith, High Point (N. C.) Chemical Mfg. Co., chairman; D. A. Torrence, Ciba Co., Inc., Greensboro, and C. O. Stevenson, Ciba Co., Inc., Greenville, S. C. The Clemson College chapter will be host to the student paper contest in April, 1952, it was made known.

The annual meeting of the section will be held Sept. 22 at Hotel Charlotte in Charlotte, with the Winter session set for Winston-Salem, N. C., at a date to be set later. J. Leon Moore will be in charge of the annual meeting.

Rinsibility Test For Detergents Available

A method for testing the rinsibility of synthetic detergents has been developed by Dr. W. A. Fessler of the Nitrogen Laboratory, Solvay Process Division, Allied Chemical & Dye Corp. The testing procedure was outlined by Dr. Fessler in a recent paper delivered before the American Society for Testing Materials and offers a means for verifying by measurements the assumption that synthetic detergents aid in the rinsing process.

A prominent feature of this method of analysis is that it will detect the presence of synthetic detergents when they are mixed with inorganic alkalies. Such alkalies include: sodium carbonates, sodium phosphates, CMC, and other detergent aids commonly found in many of the leading household and industrial detergents.

Much of the research conducted to develop the technique dealt with the absorption of synthetic detergents on fabrics such as cotton and wool, but the same test methods apply to other surfaces such as metals, plastics, ceramics, glass, or painted surfaces. The method is described as one in which aqueous solutions of synthetic detergents can be titrated with surface active ions of opposite charge where the end point is marked by a sudden migration of a Bromophenol blue complex to a layer of chloroform in the test solution.

Full details of this testing method are contained in a report available upon request to the Solvay Process Division, Allied Chemical & Dye Corp., 40 Rector Street, New York, N. Y.

Dyers And Finishers Meet With N.Y.Q.M.P.A.

Recent developments and research projects in the field of textile finishing were discussed at a meeting last month of members of the dyers and finishers division of the Quartermaster Association's textile and knitted goods industrial group with officials of the New York Quartermaster Procurement Agency. Brig.-Gen. H. L. Peckham, commanding N.Y.Q.M.P.A., presided at the meeting.

The role of dyers and finishers in military procurement and industrial mobilization planning was described by N.Y.Q.M.P.A. staff members. Problems relating to the supply of mildew inhibitors were also discussed. The group

joined in informal discussion on subjects relating to procurement, such as specifications, allocations, DO ratings, financial assistance, and ceiling prices and controls.

Chemical Industries Show Set Nov. 26-Dec. 1

With the announcement that the 23rd Exposition of Chemical Industries will be held in New York City, Nov. 26-Dec. 1, it is revealed that arrangements have been made to utilize all the available exhibit space on the four exposition floors of Grand Central Palace. Advance space reservations and applications indicate an exceptionally heavy concentration of exhibits this year in the two divisions of chemical materials and processing equipment.

Major achievements, a number of which will be fully disclosed for the first time at the exposition, include syntheses of insufficient natural substances which, in reduction to manufacturing practice, turn out by-products to fill new uses or substitute for conventional manufacturing ingredients; and also revolutionary new processes and plants for high-production, low-cost manufacture of materials that are in great demand. Such projects have been the joint accomplishment of groups of exhibitors, rather than individual undertakings. Their prime effect is to multiply heavily the economic value of the world's material resources, but the net effect is a manifold improvement in manufacturing techniques. The showing of a great deal of equipment having a joint research-project background promises unusual interest for chemists, engineers and plant executives in many fields at this year's exposition.

E. R. Weidlein, director of Mellon Institute, is chairman of the advisory committee of the 1951 exposition. The committee comprises leaders in the major fields of interest served by exhibitors.

Develop New Type Dye Winch Cover

Announcement has been made of the development of a dye winch cover fabric woven of Orlon acrylic fiber. The new cover cloth, a development of the Martin Weiner Co., industrial fabric division, is a successful combination of Du Pont's Orlon yarn and a special weave designed expressly for maximum traction to increase the "pull-power" of a revolving dye reel. This new Orlon fabric has been in actual operation in the Martin Weiner Co.'s dye plants for the past 12 months and has been subjected to all rigid tests. It is reported superior to conventional cotton covers in all respects.

Because of the inherent characteristics of Orlon fiber, the new Orlon dye winch cover cloth absorbs little or no color, thus allowing dyers a quick change from shade to shade on the same dye box. Color change time and the use of labor and materials are all greatly reduced, as stripping of covers is eliminated.

Highly resistant to chemical degradation, impervious to mildew and far better wearing than conventional cotton covers, the new Orlon cloth offers the dyer substantial savings by eliminating frequent replacement. It is currently being manufactured in all widths to make it feasible for all dyers to avail themselves of the benefits of this new product. Orlon dye winch cover cloth is the culmination of an extensive research program in which the Martin Weiner Co. tested and evaluated 22 different types of weaves and fabrics in a search for a better dye winch cover cloth.

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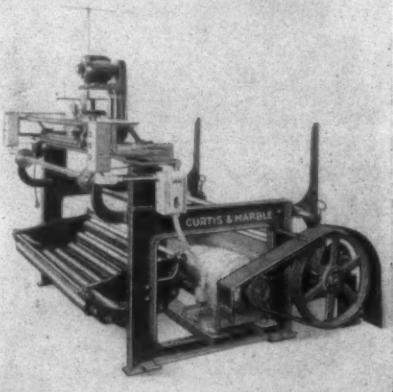
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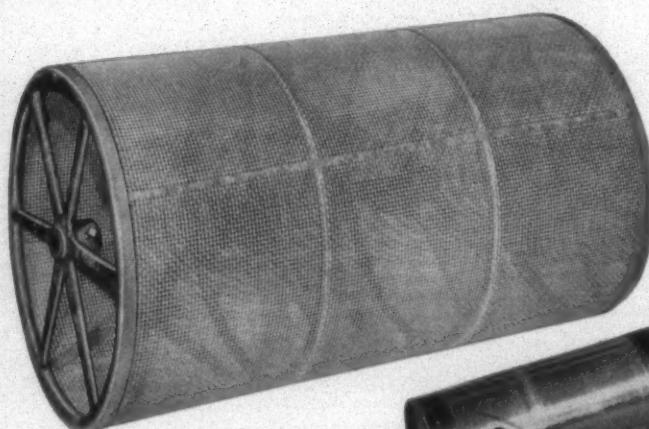
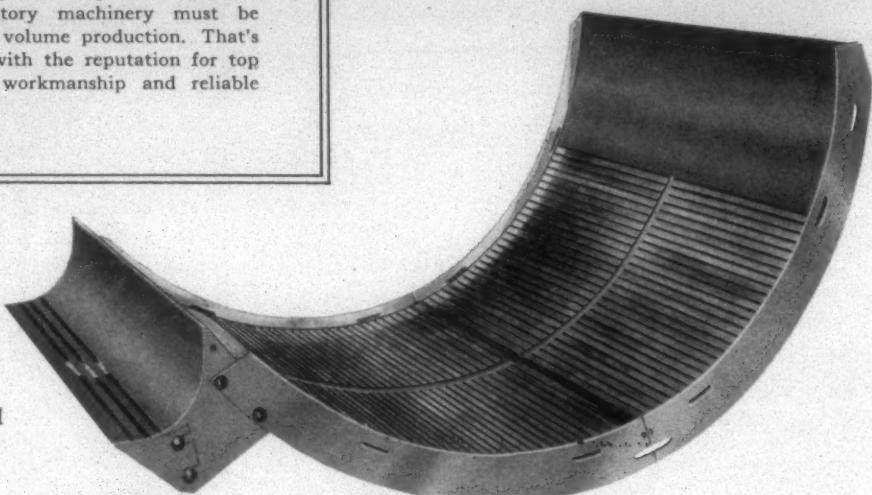
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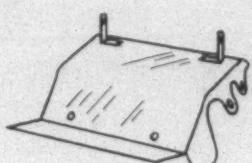
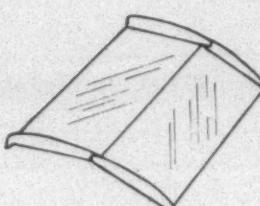
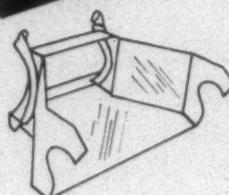
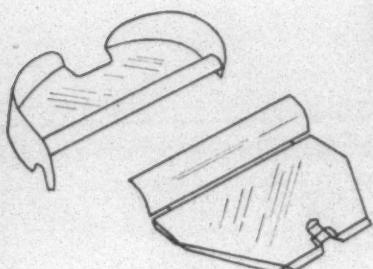
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Maintenance, Engineering & Handling

Electric Motor Troubles Simplified

By ERNEST W. FAIR

ELECTRIC motors abound in numerous places in the modern textile plant as they perform scores of different services. Their continued efficient operation is a "must" in good plant management. The period we are entering into also calls for greater attention to care and maintenance of every electric motor for repair parts are already hard to get and replacements may be almost impossible to secure, particularly on small motors. More than a hundred such motors, for example, are used in a single giant military airplane.

Recognizing electric motor troubles, correcting them speedily, and giving maintenance attention to prevention of these troubles will greatly simplify our obtaining maximum performance and efficiency from every electric motor in the plant. In paragraphs to follow are the more frequent troubles, their cause and remedy, that develops in electric motors. The responsibility for application of this information rates equally with management and with the maintenance men.

When bearings are too hot to touch or smoking, the condition may be caused by a dry bearing with insufficient oil or oil rings not working, by a dirty bearing, a tight bearing which calls for scraping the bearing and shaft or replacing the bearing, or by the oil rings not working. In the latter case they have generally worked out of their slots and should be replaced.

A bearing may also be binding if the shaft has become out of true or the bearing itself may be out of true due to too much strain on the pulley or it may have been loosened by vibration. In the case of too much vibration at this point the trouble can generally be corrected by tightening the set screws holding the bearing in its journal housing.

Warm bearings are generally caused by an overload on the motor through heat being transferred from the rotor or the stator of the motor and in such a case we should see that either the load is decreased or a larger motor used on this particular job.

Windings smoking or the wedges over the coils charred means the bearing is worn on one side and if this is discovered soon enough the bearings may be realigned or new wedges inserted to correct the trouble. If the condition is permitted to remain for too long a period of time the coils will have to be replaced.

When the motor fails to start, the more prevalent causes are: (a) The voltage is too low and there is thusly insufficient torque, which calls for an increase of the voltage. (b) A short circuit, caused by rough handling, generally in the stator windings. The damaged coils may be replaced or the break repaired by jumping the damaged coil or coils. (c) Too great a load will often be the cause of a motor failing

to start. This calls for load reduction or the installation of a clutch between the load and the motor. (d) Tight bearings will cause friction. Bearing caps can be easily loosened and if the condition continues the bearings should then be scraped.

A failure to start where automatic controls are used is generally found in the controls themselves where the general cause is that the solenoid circuit is not functioning due to the battery circuit being open, the arms holding circuit-breaking contacts are not working properly or the contacts are dirty or burned.

Lagging motor speed is the result of insufficient torque caused by the rotor field in the circuit due to the discharge switch being in the wrong position whereupon the circuit between the exciter and the motor field windings should be opened. It may also be caused by the motor load being too great.

Buzzing sounds in the motor are generally caused by a short circuited coil or group, an open circuit or a ground. The first named is generally due to mechanical injury or to broken down insulation, due to overheating, which calls for installation of a new coil or jumping the injured coil as a temporary expedient. Where it is caused by ground trouble we should remove the ground as soon as possible and reinsulate.

Low growling sounds are caused by the rotor being out of the stator magnetic center which in turn means that the motor itself either is not level or the shaft collars have shifted and there is thus too great end play on the shaft.

When the motor starts and runs but heats up while the stator is cool the rotor bars are loose or grounded because of abnormal currents in the rotor. The set screws holding the rotor bars to the short-circuiting rings should be tightened and soldered or welded and then the grounds removed.

Half-speed running on a wound-rotor motor is caused by broken connections between the windings and the collector ring or one brush is not touching and an open circuit in the rotor connections results. The break can be repaired or the worn brush spring replaced easily.

Causes of failure to start, in addition to those mentioned above, can be easily detected by first examining the fuses, then the relays, checking the starter carefully, inspecting the air gap and removing the belt or pulley to find out if there is an overload.

Explosions sometimes occur in windings while a motor is running hot. These are due to dampness which causes circulating currents between the coils and between any coil and the ground and thus creates a temporary ground or short circuit. The procedure here calls for baking the motor until all dampness is gone and then brushing it with a good

insulating varnish. Sometimes it will be found that the coils have been punctured and need replacement.

Failure to start with the starter handle in starting position and a humming sound is a frequent trouble because the motor is trying to run single-phase, an air gap is displaced or there is an open circuit in the stator windings. When the motor is trying to run single-phase it is generally because one fuse is blown or one overload relay is out of order and this can be easily handled by adjustment of the relay or replacement of the fuse. In the second-named trouble the bearing is out of true and should be shimmed or replaced with a new bearing if possible to do so.

Where there develops an open circuit in the stator windings this has been caused either from a short circuit which has punctured a coil, or from rough handling. Sometimes when a motor has been repaired and replaced at its job it will seem to run light with an unusual sound with intervals of speed changes. Generally this is because one coil in one

phase has been reversed due to wrong connections when it was replaced or reconnected.

Burned insulation, brought about by one or more coils in the stator being too hot from a short circuit is due to mechanical injury or to broken down insulation. This calls for just one thing and that is replacement of the coil though the motor may be put to temporary service if the new coil is not available by jumping the injured coil. Variable humming sounds in electric motors are usually caused by high resistance in the line (generally on long transmissions) or unstable speed of the prime mover on the alternator or supplying the motor.

A great many electric motor troubles can be eliminated by making sure that the highest grade of oil is used in sleeve bearings and the best grade of grease on roller and ball bearings. It has been found that the average daily electric motor troubles in average installations result from either improper oiling or complete lack of maintenance attention to the motor involved. The high degree of dependability of electric motors sometimes causes the best of us to become a little lax in proper maintenance attention to them.

Materials Handling At Cross Cotton Mills

LOW operating costs with very little expense maintenance, coupled with a marked decrease in man-power and man-hours used in the handling of incoming supplies and out-going shipments, are among the advantages derived by Cross Cotton Mills Co. since installation of two storage battery-powered fork trucks at its plant located in Marion, N. C. In addition, according to C. F. Goldsmith, cotton buyer for the company, greater utilization of storage space is obtained—twice to three times as much material being placed on the same square footage of warehouse space as under manual methods. Also, in routine as well as in unusual applications in handling operations, the trucks have turned in consistently good performance.

Instances of savings in time and labor cited by Mr. Goldsmith include those in one of the largest and continuing operations—the handling of incoming supplies of baled cotton. The bales, which weigh from 500 to 700 pounds each, arrive in carload lots of 100 at a time. Under methods of handling which prevailed prior to the installation of the fork trucks early in 1948, two men were used to "break" a car and tumble the bales to the floor of the mill's receiving yard. Three hand-truckers would move the bales, one at a time, first to the scale for weighing, then to the sampler, and then into the warehouse. Here, with manual effort, the bales would be unloaded, up-ended and stored. A warehouse man assisted the truckers in this latter operation.

Because bales could not be double-stacked, considerable square footage of floor area was occupied, the vertical area from top of bale to ceiling being left empty. Several hours would be spent by each of the eight men engaged in the work in addition to an overseer before a car's contents would be discharged and warehoused.

Since installation of the fork trucks, only five men plus an overseer, are used in the car unloading-warehousing operation, for a total of some $7\frac{1}{2}$ man-hours per car. In storage the bales are handled two at a time by the fork

truck and are being stacked four to six-high. From two to three times as many bales are thus now accommodated on the same floor area, while there still is available area up to the ceiling for additional storage should the need arise. One of the fork trucks can raise loads to an extreme height of 12 feet, the other to ten feet.

Likewise in handling the mill's product—cones of double carded and combed knitting yarns—either from process-end, or from packing room to warehouse awaiting shipment, the fork trucks are utilized. Packed for shipment in cartons—each weighing approximately 200 pounds, the yarn is moved by the fork trucks on pallets. Two cartons form a pallet-load, and two pallets are moved at a time. Outward shipment is by means of highway trailer truck, and the fork trucks service these with palletized loads.

In process flow bales of cotton are moved by fork truck from warehouse to the opening room. Here the cotton is fed into cleaning machines for the start of the mechanized processes that result in conversion into yarn.

Waste from the opening machines is placed in wheeled bins. These are moved from the opening room by fork truck into the mill's yard. There the fork truck elevates the bin to a receiving area on another floor level where the waste is baled and stored. The height of lift in this operation, as will be noted in the accompanying picture, is approximately 12 feet. Various other use is made of the ability of the fork trucks to pick up, move-and-deposit, or elevate-and-deposit, loads of such items as machinery, strapping and other supplies, including knocked-down cartons in "flats."

In the area within the mills adjacent to one of the production rooms a mezzanine storage space has been constructed and atop this are placed various items such as cartons and paper for which there is a continuous need. The lighter of the two fork trucks—one is of 2,000-pound, the other of 1,500-pound capacity—is used on this floor for this work and also for conveying work-in-process and packaged prod-

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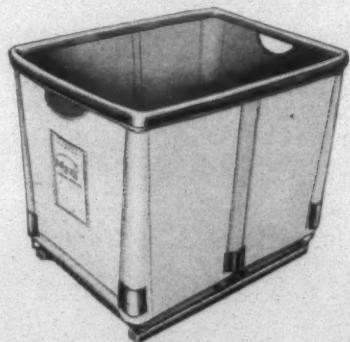


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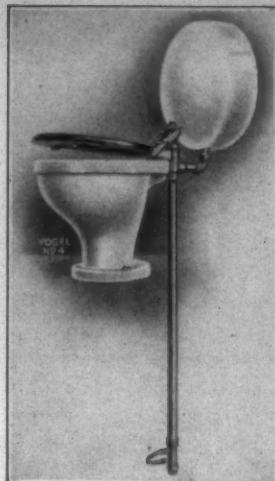
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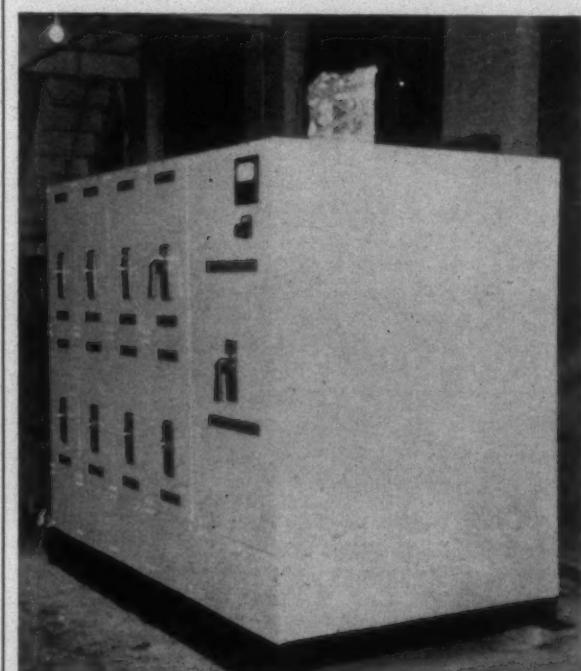
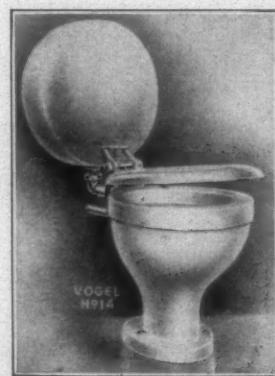
The No. 4 Frost-Proof is ideally suited to Mills and Mill Villages and when properly installed will operate efficiently even in the coldest weather. Its rugged construction and few moving parts assure long dependable service. A great convenience when installed in the yard or on a rear porch of a residence.



VOGEL No. 14 SOUTHERN OUTFIT (Not Frost-Proof)

The No. 14 is designed for Mills, Factories and Industrial Plants which do not require complete frost-proof protection. The No. 14 has a vitreous china bowl and is made of the same long-wearing materials for which all Vogel Products are noted.

(For installation where trap is set in floor)



New switchboard built by Southern Electric Service Co. for installation at Bladenboro (N. C.) Cotton Mills.

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MAINTENANCE, ENGINEERING & HANDLING

uct. Insofar as possible all material within the mill is palletized, both wooden and a special type of wire pallet being used. Pallet size has been standardized at 40 by 24 inches. Another item, received at irregular intervals throughout the year, is salt. This arrives in 60,000-pound carloads, in 100-pound bags. Palletized at car-door, the bags are moved by fork truck into the warehouse and the loads are tiered two to three-high.

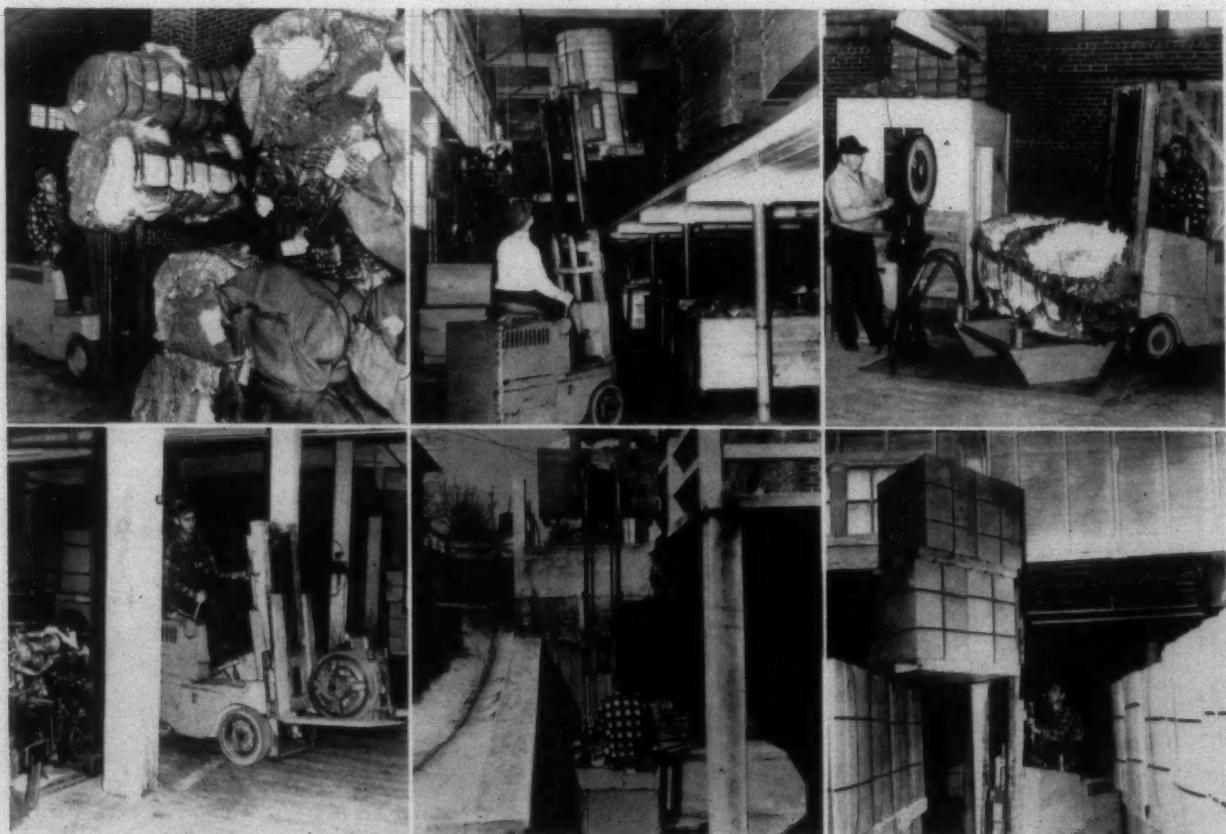
Approximately 1,200 bales of cotton are received by Cross Mills each month. These shipments, as previously stated, are handled by the fork trucks and a crew of six men including the overseer. Output runs to about 100,000 pounds of yarn weekly, this crew being utilized to handle these outward shipments. Yarn is handled a total of three different times—from packing room to the yarn warehouse where it is stored; on shipping days it is set out for marking and it then is conveyed to the trucks for shipment to various points.

Trucks are operated from eight to nine hours a day, on a five-day week basis, according to Mr. Goldsmith. Regular

schedules for inspection and maintenance are observed both for trucks and for batteries. There has been an absence of "down time" due to any unscheduled loss of service, and there has been an almost entire absence of costs for maintenance beyond those that might be expected such as oils, greases, motor brushes, contacts, etc. "An interesting use we made of these trucks," Mr. Goldsmith said in discussing the installation, "was at the time we were remodeling our warehouse. We used them to move the brick, and the cement and the wood used in the work. They saved us a lot of time and money and, I believe, we had our work completed a whole lot sooner than if we had had to depend upon the 'muscle-and-manual-effort' method of moving supplies. We also used them to carry on as much of our routine work as we were engaged in, as well. Despite this out-of-normal use of the trucks, they gave us a consistently good performance, and we experienced no trouble with them."

Schedule Third Plant Maintenance Show

The Plant Maintenance Show will next be held at Convention Hall, Philadelphia, Jan. 14-17, '52, it was an-



Top left: Cotton is decked four to six bales high in the warehouse of Cross Cotton Mills Co. at Marion, N. C. On the same floor area formerly occupied by two manually-placed and up-ended bales, from two to three times that number now are tiered. Trucks also handle outgoing shipments, move supplies from receipt-to-storage-to production, handle items of heavy machinery, and are used in maintenance work. Considerable savings, both in costs and manpower, have accrued since trucks were installed early in 1948.

Top center: Overhead space between production departments, previously unused, has been made available for storage of shipping cartons, paper and other items in constant demand, through construction of mezzanine and use of storage battery-powered fork trucks. Utilization of this space through ability of the fork trucks to elevate loads to height of ten feet, has freed considerable portion of mill's floor area for installation of production machinery.

Top right: As baled cotton is moved from receiving yard to warehouse at Cross Cotton Mills, stop is made en route by operator of fork truck to permit weighing and sampling. Bales, which weigh from 500 to 700 pounds each, are received in amounts of approximately 1,200 a month, and are decked four to six-high in warehouse by means of the fork truck. A six-man crew now takes 1½ hours to unload and warehouse a 100-bale carload of cotton, utilizing a fork truck, as opposed to approximately five hours taken by eight-man crew using hand trucks and other manual methods.

Lower left: Items such as motors and other pieces of heavy machinery are successfully handled by means of fork trucks, saving personnel from performing time and manpower consuming tasks of movement and placement. Supplies and finished product are handled on pallets whenever feasible.

Operation pictured at lower center—movement of bins of waste from cotton opening machines to baling and storage area located at street level—is one that formerly required two men, pushing wheeled bins over long route up a steep incline, some ten minutes to perform. Operator of truck, between performance of other tasks, now takes less than a minute to elevate and deposit bin on upper floor level some 12 feet above his head.

Lower right: Pallet-loads of cartons of knitting yarn, destined for outward shipment, are decked four-high in warehouse of Cross Cotton Mills Co. by means of a battery-electric fork truck. Each carton weighs an approximate 200 pounds, two cartons constituting a pallet-load. This method of storage has more than doubled product occupancy of company's warehouse utilizing same floor area, and allowed Cross to avoid construction of second floor when new cotton warehouse was built.



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MAINTENANCE, ENGINEERING & HANDLING

nounced by Clapp & Poliak, Inc., New York, the exposition management. The exposition, held for the first two years in Cleveland, has been moved to Philadelphia to permit greater attendance from the Eastern industrial area. The second show attracted visitors from 39 states and more than ten foreign countries. The displays are expected to cover an area almost four times that of the first show, held in 1950. More than 200 companies are expected to participate.

Concurrently with the show, the Plant Maintenance Conference also will be held. L. C. Morrow, consulting editor,

Factory Management and Maintenance, will serve as chairman. The last conference drew audiences of 1,700 at a single session and is one of the best attended annual technical conferences in the country. "Production machines, and the plants which house them, will receive their most severe test in the coming year," said Saul Poliak, vice-president of the management firm. "Maintenance may well become the major problem of industry as it strains to fulfill defense needs and consumer demand. Shortages of both manpower and machines already are acute in many fields and they may become critical soon. The show and conference are planned to provide visitors with an opportunity to see the newest machines and to hear outstanding experts.

Give A Thought To Variable Speed

By F. H. RUMBLE, Texrope Drive Department, Allis-Chalmers Mfg. Co.

INTERESTED in increasing the versatility of the machines in your plant? The variable speed V-belt drive may be your answer. In general, the variable speed drive is practical wherever a constant speed V-belt drive can be applied. And a variable speed drive can often be installed on existing machinery to make possible a higher production rate or lower manufacturing costs.

Six or seven points should be taken into consideration to determine whether or not a variable speed drive can be used and if it can, which type is most practical. The factors involved include the type of operation, type of driven machine, speed range required, horsepower of motor, when speed change is needed (when drive is in motion or stationary), the type of control needed, and the type and speed of motor.

Let us consider these factors in the light of an installation using an exhaust fan to draw fumes from a room. The speed range in this particular instance is from 475 to 575 r.p.m. The motor is a standard 15-horsepower, 1,800-r.p.m. unit. Change is needed only infrequently and the drive may be stopped while the change is being made. In the light of these conditions, a standard range, stationary control, variable diameter sheave fills all requirements in a variable speed drive for this application. Then, by consulting the manufacturer's pre-engineered drive tables, it is possible to determine the particular size standard range



Vari-Pitch speed changers are shown here driving a line of spinning frames at Caron Spinning Co. The speed changers permit speed to be adjusted while the frames are running.

drive to fit all other requirements in the installation just stated.

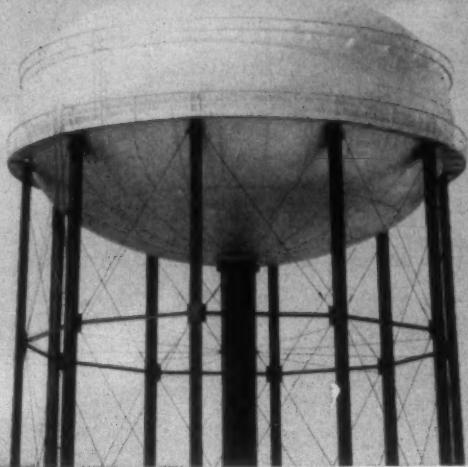
There is available to the plant engineer a variety of types of variable speed drives and wisdom dictates that he select the one best fitted to fill all his needs at the lowest cost.

The attached chart lists six types of Texrope variable speed drives with speed range, horsepower capacity, size, type and method of speed change of each classified with typical applications.

SIX TYPES OF "TEXROPE"

Type	Speed Range	H.P.	Belt	Sizes and Grooves	Typical Applications
Adjustable Sheave (Adjustable while drive is stationary)	Up to 50% Speed Increase	Fractional to 4 h.p.	Standard A or B Section	10 Sizes; 1 or 2 Grooves	Light industrial drives, stokers, small pumps, lathes, saws, tools and appliances.
Standard Range Stationary Control VARI-PITCH Sheave (Adjust while drive is stationary)	Up to 28% Speed Increase	1 to 300 h.p.	Standard A, B, C, D, or E Section	22 Sizes; 2 to 12 Grooves	Ventilating fans, pumps and blowers; spinning frames, yarn covering machines.
Standard Range Motion Control VARI-PITCH Sheave (Adjustable while drive is in motion)	Up to 28% Speed Increase	1 to 300 h.p.	Standard A, B, C, D, or E Section	21 Sizes; 2 to 12 Grooves	Lathes, grinders, drills, fans, blowers, circulating pumps.
Wide Range Stationary Control VARI-PITCH Sheave (Adjust while drive is stationary)	Up to 100% Speed Increase	1 to 60 h.p.	Wide Range Belts Q or R Section	6 Sizes; 1 to 4 Grooves	Spinning frames, twisters, conveyors, generators.
Wide Range Automatic VARI-PITCH Sheave (Adjustable while drive is in motion)	Up to 100% Speed Increase	1 to 60 h.p.	Wide Range Belts Q or R Section	5 Sizes; 2 to 4 Grooves	Spinning frames, testing machines.
VARI-PITCH Speed Changer (Adjustable while drive is in motion)	Up to 375% Speed Increase	1 to 75 h.p.	Wide Range Belts Q, R, S, or T Sections	12 Sizes; 1 to 5 Grooves	Testing machinery, conveyors, winding operation.

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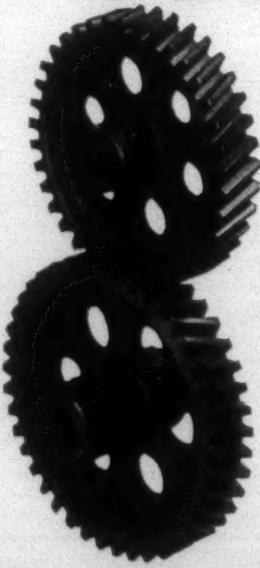
ROLLER CHAIN DRIVES

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VEE CORD DRIVES

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SPROCKETS SHEAVES COMPOUNDS



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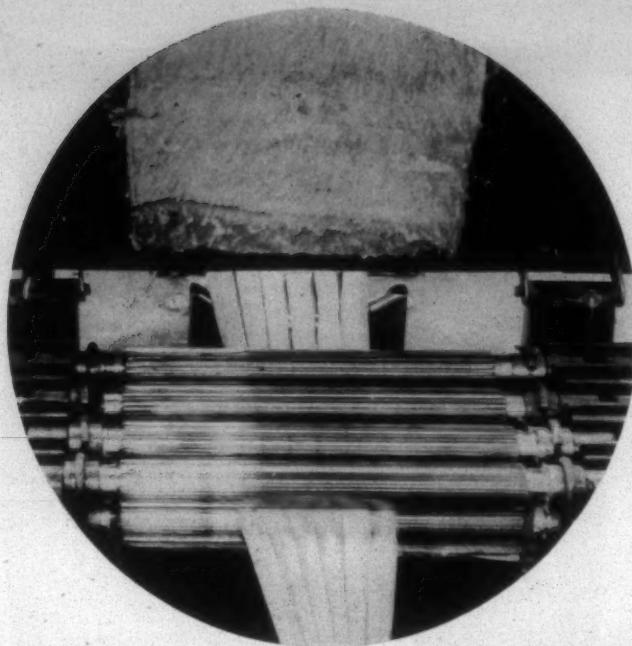
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I What Mill Men Report About Ideal High Speed Drawing Rolls*

Practical mill men gave us the following figures on the performance of their Ideal High Speed Drawing Rolls as compared to the performance of conventional rolls. Many of the mills which reported were among the most modern in the field and their comparisons were made against the most efficient drawing equipment previously obtainable. If you operate drawing frames, these figures are of great importance to you.

Ideal Deliveries needed to maintain previous production . . .	40.2% less
Variation in Drawing Sliver	26.9% less
Variation in Yarn Numbers	20.5% less
Breaking Strength	7.4% better
Ends Down on Fly Frames	7.5% less
Ends Down on Spinning	27.5% less
Power Consumption	43.3% less
Waste	26.2% less
Floor space needed	37.7% less
Oil needed	64.3% less
Oiling Time	56.4% less
Up-Keep	58.3% less
Production Efficiency	25.9% better

These actual mill production figures show that far fewer Ideal Drawing Heads are needed to maintain the same production . . . saving in cost, labor, space, maintenance. Production efficiency is increased, waste decreased, and quality improved.

Ideal High Speed Drawing Rolls also conserve critical steel. Two Ideal Heads will do the work of three old style deliveries and each head requires 14 lbs. or 14.7% less steel than formerly. If your drawing deliveries are wearing out, call on Ideal.

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PERSONAL NEWS



William E. Lundgren of Sharon, Mass., has joined the Bullard Clark Co. of Danielson, Conn., and Charlotte, N. C. Mr. Lundgren will head an enlarged research and development department, devoting his energies to the creation

of new and improved loom accessories for the E. H. Jacobs Southern Division of Charlotte, N. C., and the E. H. Jacobs Northern Division of Danielson, Conn. In the textile field for over 30 years, Mr. Lundgren was formerly with Draper Corp., Crompton & Knowles Loom Works, H & B American Machine Co. and, more recently, with Whitin Machine Works.

John Hayes and Robert P. Richardson have joined the sales staff of Crawford & Garner, Inc., Spartanburg, S. C. Both are well qualified in industrial specialties. Mr. Hayes will handle sales to textile plants in parts of South Carolina and western North Carolina. Mr. Richardson will handle sales to plants in central and eastern North Carolina.

H. V. Lindsey, for the past two years an overseer at Borden Mills, Inc., Kingsport, Tenn., is now night supervisor of Dixie Duck Mills, Spartanburg, S. C.

Arnold W. Kincaid, head of Ideal Machine Works, Bessemer City, N. C., last month was elected Worthy Grand Patron of the Grand Chapter of North Carolina, Order of the Eastern Star.

Lester Martin, president of Consolidated Textile Co., has been elected a director of the Brooklyn (N. Y.) Borough Gas Co.



H. W. Causey, formerly assistant branch manager of the Charlotte, N. C., office of Solvay Sales Division of Allied Chemical & Dye Corp., has been made branch manager of this office, in which capacity he succeeds Woodward Allen who

retired from active service with the company May 1. Mr. Causey has been with the Charlotte branch since 1936 at which time the late H. O. Pierce was manager. He is a graduate of the University of South Carolina and is widely known throughout the industry in the Carolinas.

W. D. Dodenhoff of W. D. Dodenhoff & Co., Greenville, S. C., textile machinery firm, recently was elected to serve as president of the Little Theatre of Greenville during the 1951-52 season.

E. C. Cross, an executive with Borden Mills, Inc., Kingsport, Tenn., June 2 was elected to the Kingsport board of aldermen. Mr. Cross served as a member of the Kingsport board of education for more than 20 years and is now a member of the selective service board and chairman of the Kingsport city zoning board of appeals.

A. J. Beauchamp, superintendent of Morowebb Cotton Mill Co., Dallas, N. C., recently was re-elected to serve his third consecutive term as mayor of Dallas.



Walter B. Morehouse has been appointed sales manager of the textile specialties division of Nopco Chemical Co., Harrison, N. J. Mr. Morehouse succeeds Harold C. Meegan who died suddenly on Feb. 25. As sales manager of the textile specialties division, Mr. Morehouse will be responsible for the co-ordination and expansion of sales on the division's full line of processing chemicals which includes anti-static and wetting agents; wool and worsted lubricants; penetrants; tallow softeners; nylon and rayon hosiery treatments; and a host of other products for use in all phases of textile manufacture and finishing. Mr. Morehouse is a graduate of Syracuse University and has been associated with Nopco in an executive sales capacity since 1940. In addition to his activities in the textile field, he will continue in charge of sales for the company's paper chemicals division.

James R. Smith is now representing Greensboro (N. C.) Loom Reed Co., assisting J. H. Aydelette in covering the Virginia, North Carolina and South Carolina territory.

Robert M. Lundgren has been appointed vice-president of the Kuljian Corp., international engineering and construction firm. In his new capacity he will have charge of the sales program of the Kuljian Corp., which maintains branch offices in five foreign countries in addition to its offices in Philadelphia and Washington. Mr. Lundgren received his degree in mechanical engineering from Carnegie Institute of Tech-

nology, and was employed for several years by Westinghouse International as a project and testing engineer on large-scale power developments in North Africa, Brazil, Germany, and England. He served overseas in the R.A.F. and the U. S. Air Force from the outbreak of World War II until 1946.



Jesse A. White, general manager of the three plants of Republic Cotton Mills, Great Falls, S. C., a division of J. P. Stevens & Co., Inc., was honored by employees of the three plants at the pre-Independence week holiday celebra-

tion and barbecue held at Republic Memorial Park. Company officials, in introductory and presentation speeches, lauded Mr. White for his loyalty to and constant interest in the employees.

Frank Ix of Charlottesville, Va., general manager of Frank Ix & Sons, last month was made an honorary member of the Alpha Gamma Chapter of Alpha Kappa Psi, national professional fraternity in economics and commerce. The chapter at the University of Virginia each year elects one outstanding business leader in the state an honorary member.



Arthur B. Edge, Jr., president of Callaway Mills Co., LaGrange, Ga., was honored June 20 upon completion of 25 years of continuous employment with the company. Mr. Edge was presented the diamond-jeweled pin, watch and bouquet of

flowers which is awarded each employee who completes 25 years of employment with the company. Fuller E. Callaway, Jr., a trustee of Callaway Community Foundation, presented the pin; Cason J. Callaway, also a trustee of the foundation, presented the watch; and Ely R. Callaway, vice-president of Callaway Mills Co., presented the bouquet of flowers. Mr. Edge has been continuously associated with Callaway since his graduation from the Georgia Institute of Technology in 1926.

Trammell Combs has resigned as sales representative of H & B American Machine Co. in parts of North Carolina and Virginia. Before joining H & B he had been super-

PERSONAL NEWS

intendent of Cliffside (N. C.) Mills, assistant manager of Oakland (Calif.) Cotton Mills, and assistant to the president of Atayac Textil, Mexico City.

L. L. Trent has been named personnel director of Peerless Woolen Mills, Rossville, Ga., succeeding Montgomery Montague who has been transferred to the purchasing department. Mr. Trent has been with Peerless since Sept. 1, 1949.

John Fletcher, a specialist in the field of varnishes, synthetic resins and protective coatings, has joined the staff of Arthur D. Little, Inc., industrial research and engineering firm of Cambridge, Mass. His previous affiliations include Rohm & Haas Co., the Glidden Co., and most recently his own laboratory, Elmwood Research Laboratories in North Attleboro, Mass. As a consultant to the Charles Tiberghien Etablissement of Tourgoing, France, and Woonsocket, R. I., he spent some time in England studying the wool shrinking and coating processes developed under the Wool Industries Research Association in Leeds, England.

Howard A. Gray of Nahant, Mass., has been appointed group leader in the textile chemical research laboratory of Monsanto Chemical Co.'s Merrimac Division. Former administrative assistant in the research department, Mr. Gray will be succeeded by Dr. William R. James of South Hamilton, Mass. A graduate of Northeastern University with a B.S. degree in chemical engineering in 1934, Mr. Gray joined Monsanto a year later. Prior to his service as administrative assistant, he was group leader in the lacquer application and sales service section of the department. Dr. James was graduated from Pennsylvania State College in 1947 with a Ph.D. in organic chemistry. He started work with Monsanto the same year in product and process development research.



ONE HUNDRED YEARS OF SERVICE—Walter Greenwood (left), secretary of H & B American Machine Co. at Pawtucket, R. I., who remains active with the firm after 57 years of service, congratulates Alex King upon his retirement after 43 years with the company. Mr. King, who was connected with the H & B office at Atlanta, Ga., was born in Georgia and began work with the company in 1908. He and Mrs. King will make their home at Decatur, Ga.

Lyman H. Allen, Jr., formerly with Foster D. Snell, Inc., has been appointed division engineer of the viscose section of the central engineering department of Celanese Corp. of America.

Brig.-Gen. Richard B. Thornton has been named commanding general of the Philadelphia Quartermaster Depot, assuming his new duties July 23. He succeeds Brig.-Gen. Hugh B. Hester, retired.

J. J. Kattan, treasurer and general manager of Linda Cotton Mills, Cowpens, S. C., recently was elected president of the Spartanburg (S. C.) Junior Chamber of Commerce. . . . James A. Chapman, president of Inman (S. C.) Mills and Riverdale Mills, Enoree, S. C., has been named on the new Committee for Spartanburg County, a civic group formed to carry out a survey of civic, educational and other needs being made by the Spartanburg County Foundation. Walter S. Montgomery, president of the Spartan group of mills, is chairman of the foundation's board of trustees.



H. Haley Ector has joined the sales staff of National Ring Traveler Co., Pawtucket, R. I., as representative in Alabama, Mississippi and western Tennessee. He will make his home in West Point, Ga. A graduate of Alabama Polytechnic Institute and a veteran of four years in the Army, Mr. Ector was associated with the Lannett (Ala.) Division of West Point Mfg. Co. before joining National Ring Traveler Co.

W. F. P. Cox has been promoted to director of purchases at American Enka Corp., Enka, N. C., succeeding the late Harry S. Pos. He will be responsible for all purchasing functions except for local purchases made by the Lowland, N. C., plant and the New York office. . . . J. R. Scallets has been named supply co-ordinator in charge of procurement and planning, a newly-established section of the purchasing department. . . . Larry Frederick, formerly supervisor of records and rate review, will succeed Mr. Scallets as general stores manager and plant purchasing agent at Lowland.

Philip J. La Monica, executive in dyeing and finishing operations of Burlington Mills Corp. of New York, is serving as chairman of the dyers and finishers division for the Greater New York Fund, according to Textiles and Mills Section Chairman A. A. Wright of Deering, Milliken & Co., Inc.

H. S. Mackie, purchasing agent for Textiles, Inc., Gastonia, N. C., has been appointed chairman of a seven-man Gastonia advisory committee for the Office of Price Stabilization. Mr. Mackie was chairman of the Gaston County price and ration board during World War II.

P. D. Merritt, who has been associated with Spartan Mills, Spartanburg, S. C., since 1938 with exception of time in service with the armed forces, has been promoted to overseer of spinning at Spartan Plants Nos. 1 and 2. . . . Walker Donalds

has been made general overseer of the third shift at Spartan, replacing Major Charles Cook, now on active Army duty, as noted. Mr. Donalds was previously second hand in weaving at Plant No. 2. . . . Jake Delmar, with Spartan since graduating from North Carolina State College in 1948, has been promoted to Mr. Donald's former position. . . . R. G. Jamison has been promoted to general overseer in charge of the second shift. . . . Tom Hamrick, formerly with Gaffney (S. C.) Mfg. Co. and prior to that with Springs Cotton Mills, has joined Spartan as second hand in Plant No. 1 weaving.



A. P. Hyde of Charlotte, N. C., has been appointed sales engineer in North Carolina, Virginia and Tennessee for Rodney Hunt Machine Co., textile wet finishing machinery manufacturer of Orange, Mass. Mr. Hyde, active in his present territory for the past eight years as sales engineer for a manufacturer of recording devices, is familiar to a number of textile men whom he contacted for the other company. He recently completed an intensive training course at Hunt's Orange plant and is now servicing Rodney Hunt customers in his territory.

Walter K. Lewis of Sonoco Products Co., Hartsville, S. C., has taken over the sales territory formerly covered by John B. Coxe, who will join the National Production Authority in the converted paper products section. The sales territory taken over by Mr. Lewis comprises a portion of North Carolina and Tennessee.

Samuel R. Phillips, who received his B.S. in textile engineering at Georgia Tech in 1938, has been appointed assistant to the general manager of the textile division of United States Rubber Co. He joined the firm in 1939 at Stark Mills, Hogansville, Ga., and was transferred to the company's general offices in New York in 1941; in 1946 he became assistant manager of sales and production co-ordination and was made manager of this department in 1948. . . . Stanton J. Peele, Jr., a 1938 graduate of the School of Textiles at North Carolina State College with a B.S. in textile manufacturing, has been named to succeed Mr. Phillips as manager of sales and production co-ordination for the textile division. Mr. Peele joined the rubber company in 1946 after about three years with Aberfoyle Co., Norfolk, Va., and five years in the Navy. . . . Stephen A. Ward, formerly assistant to the manager of the company's rayon tire cord mill at Scottsville, Va., has been transferred in a similar capacity to the company's combed yarn mill at Gastonia, N. C. Mr. Ward joined the firm in 1936 upon his graduation from the School of Textiles at North Carolina State College where he received a B.S. degree in textile engineering. . . . Elmer L. Johnson, Jr., a graduate of the University of Virginia and with the firm since 1944, has been named to succeed Mr. Ward as assistant to the manager at Scottsville. Mr. Johnson continues as industrial relations manager of the rayon tire cord

PERSONAL NEWS

mill, a position he has held since 1946. . . . John W. Alexander, formerly employment supervisor for the company's Winnsboro (S. C.) Mills, has been transferred to Hoggansville, Ga., where he will serve as industrial relations manager of the firm's three plants in that city. Mr. Alexander has been with the company since 1946. He is a graduate of Wofford College, Spartanburg, S. C., and received his M.A. degree at Gallaudet College, Washington, D. C.

John F. Lewis of Cascade, Va., retired textile executive, observed his 92nd birthday June 20. During the evening hours many visitors called to bring gifts and to extend congratulations and best wishes. Among the guests were a number of members of the Leaksdale (N. C.) Masonic Lodge, of which Mr. Lewis has been a member since 1902. Born in Guilford County, near Lee's Chapel, on June 20, 1859, Mr. Lewis spent his boyhood days on a farm. He began his textile experience with the Glencoe Mills in Burlington, N. C. Later he worked with textile plants at Danville, Va., and the Cone Mills at Greensboro, N. C. In 1900 he came to Spray, N. C., and began his career as superintendent of the Leaksdale Cotton Mills, one of the B. Frank Mebane plants. He continued in this capacity for 25 years. After retiring from the mill business he engaged in several other activities until he moved to his present home. Mr. Lewis was one of the founders of a textile operating executives club in Spray in the early 1900s which developed into the present great and active Southern Textile Association with its several divisions and general headquarters in Charlotte, N. C. . . . Jesse J. Shumate of the Karastan Mill of Fieldcrest Mills at Leakesville, N. C., retired recently under provisions of the Marshall Field & Co. pension plan. Mr. Shumate retired with an outstanding record of 46 years of continuous service. In the planning and development of looms and other machinery, he is credited with a big part in making the Karastan Mill one of the outstanding rug plants in the nation. . . . Luther Hodges, former executive vice-president of Fieldcrest Mills who recently resigned his post with the E.C.A. in Europe, is spending the summer at his Crescent Beach, S. C., cottage.

David C. Scott, Jr., last month was elected president of Scott Testers, Inc., Providence, R. I., succeeding his father. He will continue to serve the firm as sales manager. James M. Scott continues as treasurer and production manager. Diana Scott Worth-

ington was elected secretary and William G. Ahlson, formerly accountant, was elected assistant treasurer of the firm.

R. F. Walker, formerly overseer of carding and spinning at Eastman (Ga.) Cotton Mills, is now superintendent of Jordan Spinning Co. at Cedar Falls, N. C.

Morris L. Chandross has been appointed chief of the apparel branch of the consumer soft goods division of the Office of Price Stabilization. Mr. Chandross joined the agency in January and had served as acting chief since March. . . . J. E. Robison, executive vice-president of Textron, Inc., has been appointed chief of the textile branch of the consumer soft goods division of O.P.S. succeeding Charles W. Carvin, who resigned to return to the New York converting firm bearing his name.

Tom Little, who joined Switzer Bros., Inc., more than two years ago, has been appointed manager of Day-Glo textiles for the firm. He will continue to handle much of the licensing and sales contacts in the rapid expansion of daylight fluorescent colors in the apparel and accessory fields.

A. R. Thompson of the Charlotte, N. C., office of Ciba Co., Inc., is recovering nicely following a recent operation at Charlotte Memorial Hospital.

J. Spencer Love, chairman of the board of Burlington Mills Corp., recently moved into a country home located on a farm six miles from Middleburg, Va., and eight miles from Purcellville, Va. He purchased the farm several months ago. For the past several years the Love family has been residing in Washington, D. C.

Donald D. Gagliardi has been appointed director of product development for Warwick Chemical Co., a division of Sun Chemical Corp. Mr. Gagliardi was research associate of the Textile Foundation Laboratories from 1942 to 1944; senior chemist for the National Bureau of Standards from 1945 to 1946; and a section leader in the Rohm & Haas Co. central research laboratories from 1946 to 1951.

A. J. Smith, Jr., manufacturing superintendent of the Du Pont Co.'s Seaford, Del., nylon plant, has been appointed as assistant director of sales for Dacron polyester fiber. He was transferred to Wilmington July 2 to assume his new duties. He joined the company in 1941 in nylon sales in Wilmington. . . . The appointment of Dr. Paul L. Salzberg as assistant director of the Du Pont chemical department was

announced July 2 by Dr. Cole Coolidge, who became director of the department with the retirement of Dr. Elmer K. Bolton July 1. The chemical department is concerned primarily with the company's long-range and fundamental research. . . . Simultaneously, Dr. M. M. Brubaker, director of research of the chemical department, announced these other promotions: Dr. David M. McQueen to succeed Dr. Salzberg as laboratory director for the chemical department at the Du Pont Experimental Station. Dr. Burt C. Pratt to succeed Dr. McQueen as an assistant laboratory director there, and Dr. Clement W. Theobald to become a research supervisor.

OBITUARIES

Fred G. Barnes, vice-president in charge of the purchase of raw materials at Bibb Mfg. Co., Macon, Ga., died July 2. Mr. Barnes had been associated with Bibb Mfg. Co. since shortly after World War I. At the time of his death he was serving as one of Georgia's representatives on the cotton committee of the American Cotton Manufacturers Institute. Surviving are his wife, a daughter and two sons.

Ernest F. Culbreath, 49, head of Ernest F. Culbreath Co., textile machinery firm of Charlotte, N. C., died recently. Surviving are his wife, two daughters, his father, a brother and a sister.

A. P. Herman, 44, supervisor of the Allred Plant of Shuford Mills, Inc., Granite Falls, N. C., was killed July 8 when he was shot by a Negro laborer of Granite Falls. Officers could give no motive for the tragedy. Mr. Herman is survived by his wife and a son.

Julian Huger LaBruce, 52, previously cotton buyer for the Edna Plant of Cone Mills Corp., Reidsville, N. C., and at the time of his death connected with the cotton departments of P. H. Hanes Knitting Co. and Arista Mills at Winston-Salem, N. C., died July 10 of a heart attack.

Dr. Arthur Mothwurf, first president of the former American Glanzstoff Corp. (now North American Rayon Corp. and American Bemberg Corp.), died June 21. Mr. Mothwurf was named president of the two rayon companies at the time of their founding and it was under his supervision that both plants were built at Elizabethton, Tenn. He was a native of Germany. A brother and a daughter, both living in Munich, Germany, survive.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

OXFORD, N. C.—Construction of a new addition to Burlington Mills' Oxford spinning plant has been resumed following a four-month delay due to shortages of building materials. The expansion project when completed will substantially increase the spinning mill's productive capacity and its annual payroll. The building program will be carried to completion as rapidly as pos-

sible. Target date for its completion has been set at approximately Nov. 1. Heenan Holt, of Graham, N. C., has been awarded the construction contract. The Oxford plant now employs 250 persons and has a payroll of approximately three quarters of a million dollars annually. The new addition will be of single-story brick and steel construction, with fluorescent lighting, hardwood floors,

automatic sprinkler system, and containing the latest types of air humidification and conditioning equipment.

BELMONT, N. C.—More than 10,000 people gathered here July 4 to celebrate the opening of the playground in Stowe Park, the first phase of the \$100,000 recreation center now under construction. Stowe Park

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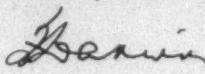
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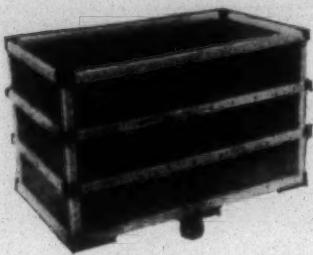
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Fall River Mill Supply Co. Fall River, Mass.

Mr. Theodore Huston 2601 N. Broad St., Philadelphia, Pa.

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LINCOLNTON, NORTH CAROLINA

MILL NEWS

is being planned and built by the S.N.C.I. Foundation, which is composed of Stowe Spinning Co., National Yarn Mills, Chronicle Mills, and Imperial Yarn Mills. The park is named in honor of R. L. Stowe, Sr., who is president of National, Chronicle and Imperial and treasurer of Stowe Spinning Co.

HIGH SHOALS, N. C.—Carolinian Mills, Inc., was host to 1,200 employees and their families June 30 for an outdoor field day and barbecue supper, the kick-off event for the July 4 vacation week. Speakers cited the growth of the plant since its founding about 50 years ago. It was stated that an addition of 58,000 square feet of floor space, now under construction, would place the firm among the largest manufacturing plants in North Carolina. In recent years many improvements have been made in the mill buildings and in the village. New operating equipment has increased efficiency and improved the quality of the product. In order to provide children of mill employees a safe place to play, Carolinian Mills has placed playground equipment at key positions in the mill village.

NORFOLK, VA.—Aberfoyle, Inc., filament rayon weaving mill, has changed its name to Norfolk Mills, Inc. The plant recently was purchased by Dan River Mills, Inc., Danville, Va.

CONWAY, S. C.—Conway Textiles, Inc., was chartered July 9 to engage in manufacture of all kinds, including textile manufacturing, and to acquire plants and factories. Capital stock is \$25,000. Hyman Berkowitz is listed as president of the new concern.

HAWKINSVILLE, GA.—Superba Mills, Inc., has been acquired by Opelika (Ala.) Mfg. Corp. in a move to expand its toweling production. Superba has been shut down temporarily while machinery and equipment is overhauled, but is expected to be in operation again at an early date. M. Snower & Co. of Chicago will handle sales for both mills.

DRAPER, N. C.—Damages estimated at \$20,000 were caused last month at Fieldcrest Mills when heavy rains caused rising waters to flood the floors of several sections of the plant.

CLINTON, S. C.—A \$3,000,000 expansion and modernization program at Lydia Cotton Mill recently has been completed and will result in a 30 per cent increase in production and employment of about 150 additional workers. The work at Lydia is part of a \$10,000,000 program of improvement at Lydia and Clinton Cotton Mill, both headed by P. S. Bailey, president and treasurer. Some of the mill improvements include: overhauling of all existing equipment; installation of new opening and picking equipment, of vacuum stripping and new roving frames in the carding department; installation of new high-speed warpers and 16,000 new Whiting spindles in the spinning department; air-conditioning of the weaving department and the addition of 276 X-2 Draper 44-inch looms. Also constructed was a new three-story brick and steel construction warehouse. Living conditions of employees at Lydia have been greatly improved by completely modernizing the village; overhauling water and sewerage systems, paving streets and sidewalks, construction of a \$150,000 swimming pool and the building of a school cafeteria. Mr. Bailey reports work progresses more slowly at Clinton Mill, and the program still has a long way to go there. So far about \$1,500,000 have been spent on a ball park, swimming pool, office building, a large community store and mill improvements. Much new machinery has been installed, and plans call for some \$2,000,000 in additional new machinery within the next two years.

SPARTANBURG, S. C.—Plans for construction of a new 50 by 70-foot addition to the Beaumont Mfg. Co. plant, with over-all expenses expected to reach at least \$100,000, were announced last month by President W. S. Montgomery. Mr. Montgomery said that the addition to the basement and first floor of Beaumont would be used to provide storage and additional machinery for manufacturing duck material for the U. S. Army.



THE SUNSTONE COLORS LABORATORY of the Warwick Chemical Division, Sun Chemical Co., has been opened adjacent to the Sun Chemical Building at Long Island City, N. Y., according to Ernest Nathan, vice-president. The new laboratory is devoted exclusively to problems of color chemistry relating to decorative printing of textiles and plastics. The new centralized quarters, equipped with the most modern facilities, bring together a number of heretofore separately controlled laboratories. Products developed and controlled by this new facility are currently being manufactured in Warwick plants in Rhode Island, New Jersey and South Carolina.

CHARLOTTESVILLE, VA.—The 150 company-owned houses of Frank Ix & Sons, built during the past five years, are being sold to employees. The purchase plan calls for a small down payment and monthly payments over a ten-year period.

WALLACE, N. C.—It is reported that the Wallace Mill now under construction at Wallace by J. P. Stevens & Co. will manufacture tricot fabrics instead of woven goods, as planned originally.

GREENVILLE, S. C.—Employees of the Brandon Plant of Abney Mills recently completed 1,000,088 man-hours without a lost-time accident. C. E. Rich, chairman of the Brandon Safety Council, reports that this is the second time in the history of the plant that such a figure has been reached. Ralph Genoble is safety engineer at Brandon.

SUMMERTIME, GA.—A 40,000 square foot addition is now under construction at Georgia Rug Mill. Scheduled to be completed in October, the new facility will house added manufacturing equipment designed to more than double the company's current output of cotton rugs. A new quality control laboratory is included in the new addition.

WINNSBORO, S. C.—A special reservoir to hold waste water from the dyeing and ustex treating operations has been constructed at the Winnsboro Plant of United States Rubber Co. The waste water is cooled, settled, aerated and treated before being released into nearby streams. . . . The electrical facilities of Winnsboro Mills have been purchased by the South Carolina Electric & Gas Co. New owners of the facilities have assumed all contract responsibilities formerly carried out by the company, residents of the mill village have been informed.

SPARTANBURG, S. C.—Arkwright Mills' \$700,000 yarn spinning plant at Camp Croft is now going into full production on two-shift basis with approximately 120 employees. The 50,000 square foot mill houses 74 spinning frames with about 18,000 spindles. Most of the machinery was acquired from other mills at a cost of about \$600,000 of the total investment. Yarn produced in the new plant is being used by the Arkwright weave shed already located at Camp Croft. It also has about 120 employees on two-shift basis. Both Camp Croft divisions will go on a three-shift basis in the Fall when some 100 additional employees will be hired for the two operations.

ROCKINGHAM, N. C.—Safie Mfg. Co. recently was awarded a certificate of safety by the North Carolina Department of Labor in recognition of the company's outstanding safety record for 1950.

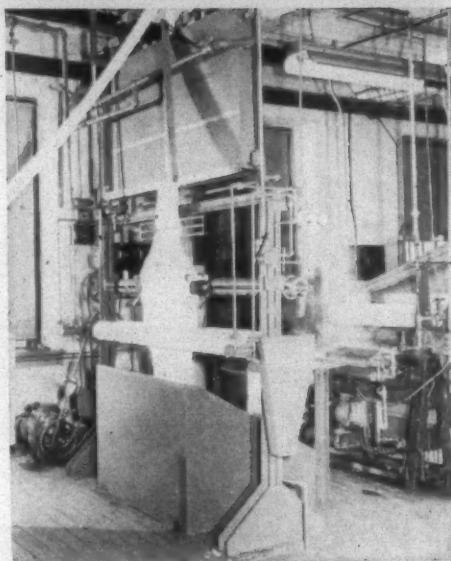
PROVIDENCE, R. I.—Officials of Textron, Inc., are reported to be negotiating with authorities of a city in Mississippi concerning construction of an \$8,000,000 textile plant. The Mississippi plant, it is understood, would be financed in a similar manner to the one Textron is erecting in Elizabethton, Tenn., which is being financed by a municipal bond drive, the sum including construction as well as equipment.

LOUISBURG, N. C.—Franklin Memorial Hospital here has been presented a check for \$1,000 by the Burlington Mills Founda-

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MILL NEWS

tion. The check was presented to the hospital's business director by John O. Farish, superintendent of Burlington's Vamoco Plant at Franklinton, N. C.

GREENVILLE, S. C.—The new White Horse Plant of Maverick Mills is now in partial operation. General Manager H. W. Dugan stated that machinery is being put into operation as fast as it is installed. The plant will employ 400 workers on 30,000 spindles and 500 looms when completed.

LAURENS, S. C.—All construction, remodeling and installation work has been

completed at Palmetto Worsted Mills and the plant is now in full production. A new building was combined with a remodeled one at a cost of about \$100,000 for the plant. Richard C. O'Brien of Boston, Mass., is president of the mill and Fred J. Davis is vice-president.

GREER, S. C.—Employees of the Apalache Plant of Victor-Monaghan Co., a division of J. P. Stevens & Co., last month completed more than 1,000,000 man-hours of work without a lost-time accident.

ROXBORO, N. C.—Collins & Aikman Corp. is transferring 4,800 spinning spindles and 2,000 twisting spindles from its Roxboro plant to its Plant H in Bristol, R. I.

In the shift the Rhode Island plant will become one of the firm's two remaining spinning plants and the Roxboro facility will be put entirely on jacquard weaving.

NEW YORK, N. Y.—Greenwood (S. C.) Mills, Inc., July 5 opened its new building at 64 Worth Street containing sales and executive offices of the firm. Providing about 50,000 square feet of floor space, Greenwood Mills invested about \$750,000 in the facility. It contains a laboratory designed for making tests to measure the strength, dye fastness, resistance to abrasion and other properties of cotton and synthetic fabrics.

CARTERSVILLE, GA.—Candlewick Yarn Mills here has been acquired by Kingston (Ga.) Mills Corp. as part of an expansion move on the part of the Kingston concern. The plant was scheduled to have begun operations early in July under the temporary name of Kingston Mills, Inc. Actual purchase of the Candlewick property was made by J. K. Boatwright of LaGrange, Ga., accountant and ex-treasurer of Callaway Mills Co., and J. C. Kennington, owner-manager of East Point (Ga.) Roller Covering Works.

GASTONIA, N. C.—The picker room at Gray Mills, Inc., was damaged slightly last month by fire when cotton became ignited in a machine.

CLOVER, VA.—Pacific Mills has acquired 520 acres of land about three miles north of Clover. Mill officials have made no public statements as to what they intend to do with the property. It is believed, however, that the firm may construct a new plant at the site.

ENKA, N. C.—A visual performance testing program, intended to help employees conserve and improve their vision, has been initiated at American Enka Corp. The company has subscribed to the Bausch & Lomb Ortho-Rater service. Tests will be administered by personnel trained in operation of the Ortho-Rater.

UNION, S. C.—Union-Buffalo Mills, a division of United Merchants & Manufacturers, Inc., last month distributed the first issue of its mill paper to its 2,500 employees. *The Bell*, as it is called, is of tabloid form, 12 by 17 inches, and contains eight pages of news and pictures concerning the various departments of the plant. The paper will be published every two months.

BESSEMER CITY, N. C.—The new two-story addition to Osage Mfg. Co. is in an advanced state of construction. This new 29,000 square foot addition will house additional looms, cloth room, supply room and machine shop to round out the mill's modernization program. Osage is a division of Reeves Bros., Inc., New York City. Engineering for the expansion has been done by Lockwood Greene Engineers, Inc., Spartanburg, S. C. Fiske-Carter Construction Co. of South Carolina is the general contractor.

OSCEOLA, ARK.—The Crompton-Shenandoah Co. of Waynesboro, Pa., is exercising an option on a textile mill site near here, but construction of the plant may be delayed.

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Whitehead Permalite Shields are strong as steel but many times lighter. They mount right on the ring rail and can be flipped back for doffing. Available in a complete range of shapes and sizes for any spinning or twisting need—tall, slim ones; short, broad ones; big ones and little ones. And with all their superiority, they cost no more!

EASY TO INSTALL—Simply drill and tap ring rail. We supply the shields and bar drilled to your gauge and ring count, together with proper support hangers and all screws and washers.

ONLY WHITEHEAD PERMALITE SHIELDS OFFER THESE ADVANTAGES

- Fewer ends down; some mills report 27% less
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- Less vibration, wear of cams, worm gears and lifter-rod bearings
- Reduction of live weight—from as much as 300 lbs in old slotted steel shield assemblies to as little as 35 lbs per frame
- No attention after installation

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Ed F. Brown, 417 Dale Avenue, Knoxville, Tenn.
NORTHERN REPRESENTATIVE
Matthews Equipment Co., 93A Broadway, Providence, R. I.

by shortage of building materials. President Gale Richmond of the company said in a letter to the Chamber of Commerce here that "authorities expect conditions to improve in 1952, and we hope to commence building as soon as materials supplies are clarified." The company announced last October that it will construct a \$4,000,000 textile mill on a site one mile south of Osceola. Soil stabilization tests and water tests have been completed by company engineers, and officials said that they have "proved entirely satisfactory to the company."

CHARLOTTE, N. C.—The Charlotte plant of Textron Southern recently was sold to Vanderbilt University of Nashville, Tenn., for \$2,700,000. The university bought the plant as an investment and immediately leased the property to Textron Southern for 11 years with option to renew. The sale will have no effect on operations at the plant, with management and personnel unaffected.

WHITMIRE, S. C.—Employees of the Aragon-Baldwin Division of J. P. Stevens & Co. June 13 completed 2,000,000 man-hours without a lost-time accident. The safety record began last Sept. 25.

TRYON, N. C.—Kilburn Mills of New Bedford, Mass., has completed arrangements for the construction of a new \$2,000,000 thread finishing plant on Vaughn's Creek near Tryon, Polk County, N. C. George B. Knowles, Sr., president of the parent mill at New Bedford, Mass., which was founded in 1905, is well known in textile circles. George B. Knowles, Jr., and James Knowles, worked with W. C. Ward, Tryon mill owner, and Lockwood Greene Engineers, Inc., of Spartanburg, S. C., in selecting the plant site. Lockwood Greene Engineers, Inc., are preparing the architectural plans and specifications for this new plant. Contracts for the construction of this modern one-story mill of approximately 60,000 square feet initial floor area are to be let at an early date.

ELIZABETHTON, TENN.—A recent Chancery Court ruling here gives the City of Elizabethton the right to issue \$4,000,000 in bonds to help build a new textile plant here which will be leased to Textron, Inc., for production of nylon tricot fabric. Elizabethton voters in May approved issuance of the bonds to build the plant. Textron is scheduled to pay the city \$7,800,000 in rent over a five-year period.

STATESVILLE, N. C.—The Phoenix Division of Beaunit Mills is discontinuing knitting operations at Statesville and will increase its weaving facilities. Most of the knitting equipment will be transferred to the Beaunit plant at Beverly, N. J.

DYERSBURG, TENN.—Dyersburg Cotton Products, Inc., recently leased to the City of Dyersburg, for an undetermined number of years, a 13-acre tract of land to be developed into a new municipal park. The textile concern leased the property to the city for a rental consideration of \$1 per year. It has been proposed that the recreation area be named "Wheeler Park" in honor of R. H. Wheeler, president of the mill.

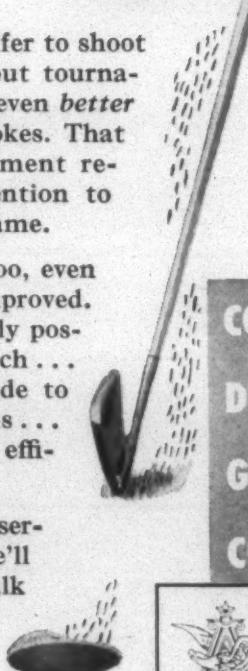
Just how good CAN you get?



It takes a whale of a golfer to shoot par for the course . . . but tournament champions shoot even better than par, by a few strokes. That "few strokes" improvement results from special attention to the fine points of the game.

In textile production, too, even good efficiency can be improved. For instance, it's entirely possible that a certain starch . . . perhaps even tailor-made to your own specifications . . . could contribute to an efficiency gain.

Why not call your Anheuser-Busch representative? He'll be glad to come and talk it over.



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For The Textile Industry's Use

EQUIPMENT - SUPPLIES - SERVICES - LITERATURE

Landis To Distribute Leder Loom Leathers



Oliver D. Landis, Inc., manufacturers' agent of Charlotte, N.C., has been appointed exclusive Southern representative of Leder and Co., Ltd., Zurich, Switzerland, manufacturer of raw hide drop box pickers and Draper-type loop

pickers. Negotiations with the company to handle their products in the South were concluded by Mr. Landis when he visited the plant in the course of his recent trip to Europe. Leder and Co., Mr. Landis was told, is the largest tanner of hair-on leather in Switzerland and the largest tanner of water buffalo chrome leather in the world. The company, which was established in 1840, has another tannery in northern Italy and makes a complete line of leather loom specialties. An adequate stock of Leder pickers will be carried in Charlotte for the prompt servicing of Southern mills, Mr. Landis stated.

New Shrinking Machine

The Felters Co., Boston, Mass., one of the world's largest manufacturers of felt, announces the installation of a new multi-roll shrinking machine with which, states the company, they are "developing an entirely new theory and process" for the making of felt. Fabricated in Italy, the machine is the result of progressive studies by German, Italian, French and American machine makers going back to the turn of the century. The installed unit cost of the new shrinking machine is in the neighborhood of \$70,000. "We expect," declares L. H. Hansel, president, "greatly improved quality and large savings."

Chain Belt Co. Bulletin

A new bulletin entitled, "Installation, Operation and Maintenance of Chain Drives and Conveyors" recently has been published by Chain Belt Co. of Milwaukee, Wis. Of great interest to all who design, install, maintain or operate chain drives and conveyors, this bulletin shows how to get the most service from sprocket chains. The text is short and to the point, and most of the illustrations show graphically the correct and incorrect ways of solving chain installation, operation and maintenance problems.

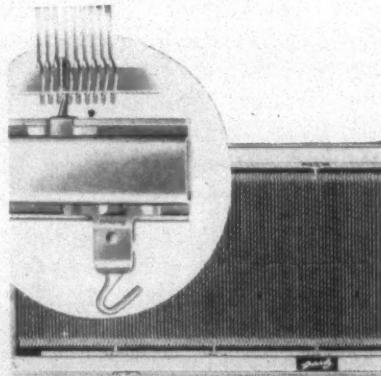
This bulletin is published in the theory that no matter how excellent a chain might be in design and construction, it will not give 100 per cent satisfaction unless it is properly installed and operated . . . given periodical inspection, lubrication and ad-

justment. It is a treatise on how best to accomplish this end to assure longer life, smoother operation and lowest over-all cost from sprocket chains. For your copy, request Bulletin No. 51-7 from Chain Belt Co., 1600 West Bruce Street, Department PR, Milwaukee 4, Wis.

Rohm & Haas Expanding

Rohm & Haas Co., manufacturer of textile chemicals and other products, is expanding its Southern operations with construction of a new building in Charlotte, N.C., which will combine its warehouse, office and storage facilities there under one roof. The new building, which is located on the Mount Holly Road, will have approximately 12,000 square feet of floor space. The building is expected to be completed by the end of September. The Charlotte warehouse will serve the company's customers located in an area including Danville, Va., Memphis, Tenn., Cincinnati, Ohio, New Orleans, La., El Paso, Tex., and various Florida cities.

Grob Lightmetal Frame



The Grob patented Lightmetal harness frame is now being fabricated in this country by the Grob Corp. of New Bedford, Mass., a subsidiary of Grob & Co., Ltd., of Horgen, Switzerland. One of the main features of this Lightmetal frame is contained in the free riding slide hooks which will not allow heddles to bunch but will automatically adjust themselves to the heddle and warp threads throughout the entire length of the frame to avoid any gaps in the warp which often results in warp streaks. The raising and lowering hooks are also novel in construction. When the hook part of the assembly is in position it locks the entire hook to the frame. This allows hook adjustment while guaranteeing against hook pull outs or the loosening of the hook on the frame.

The side supports of the frame are made from Lignostone, a highly compressed and impregnated wood which cannot warp and

is moisture proof. This support is made thicker than the frame which guarantees against any metal to metal contact during operation. The side supports contact only each other with a resultant polishing action. A special snap-in center support is provided for extra-long frames and a special assembly, easily applied or removed, will convert a regular frame into a selvage frame or vice versa.

Wear on heddle and heddle bars is considerably reduced and any unequal tension on the warp threads is prevented by the construction and action of the frames in the loom, it is claimed. It is available for immediate delivery. Northern representative (including New Jersey and Pennsylvania) is the Schmidt Mfg. Co. of New Bedford, Mass. Southern representative is Watson & Desmond of Charlotte, N.C.

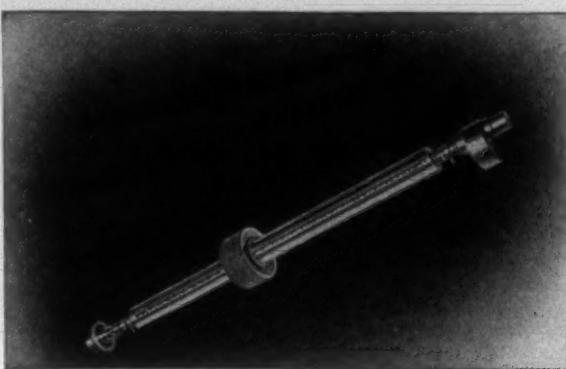
Acme Strap Cutter

Acme Steel Co. has just introduced the E14AO strap cutter, a light-weight tool designed to cut flat steel strapping up to $\frac{3}{4} \times .035$ inches with minimum effort. Among features of the simple construction is a band guide which prevents straps from wedging sideways between the blades. A flat lower blade permits easy insertion beneath tensioned straps on bales, bundles and cartons. Frame and blade are constructed from forged steel for rugged performance. Narrow span handles are curved to fit the grip of the operator. Measuring $9\frac{1}{2}$ inches long, the tool weighs one pound. Further information may be obtained by writing Department 30P, Acme Steel Co., 2840 Archer Avenue, Chicago, Ill.

Anderson Evenness Tester



New equipment to test evenness and to determine the weight of yarn of every known fiber, natural or man-made, has been developed by the research laboratories of Pacific Mills, Lawrence, Mass. The unique equipment uses a special General Electric photoelectric recorder and other electronic devices. Manufactured by the Anderson Machine Shop of Needham Heights, Mass.,



NEW ROY Internal Ball Bearing Cotton Traverse Grinder gives you smoothest grinding action ever known. The grinding wheel floats back and forth across the tube giving the wire a breezing touch action and accurate side grind.

This advantage—the result of long experimentation with various types of ball bearings—means added years of service when properly installed in a new as well as an old grinder.

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Last Longer, Make Stronger Yarn,
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The Reason the
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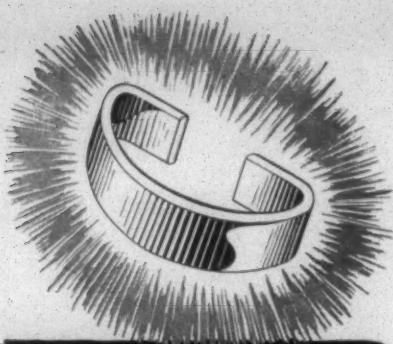
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**They KNOW
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Dary Processed Travelers do the job right. Design shapes them for that one purpose, craftsmanship produces them like parts of a fine watch.

Call in your friendly Dary Representative. He'll show you the right traveler works hardest and longest, at a saving — because it's built to know its job!

*Next time you order,
Specify DARY Ring Travelers*



FOR THE TEXTILE INDUSTRY'S USE—

the Pacific evenness tester provides a permanent record of yarn thickness at the rate of 12 yards a minute.

Eliminating older trial and error methods, the new tester determines actual fiber weight exclusive of moisture and oil content, without previous conditioning in standard atmosphere rooms. The unit was designed to test evenness, and to determine the weight of sliver, roving and yarn from 4.5 ounces per five yards wool sliver to 100s worsted yarn, or the equivalent in any other fiber.

The sliver or yarn is fed into the tester through a set of tongue and grooved rolls. The bottom grooved roll is positively driven through a flexible coupling by a 36 r.p.m. gear reduction motor. The top tongued roll is friction driven and is mounted on an arm, pivoted in a casting mounted on the base. The width of the grooves govern the capacity of the tester.

As the sliver or yarn runs between the top and bottom rolls, in the correct groove, variation in thickness causes a linear movement up or down of the top roll. This movement is converted into an electrical impulse by a special G-E magnetic displacement gauge, which in turn is measured by a micrometer, magnified and inked on graph paper by the special photoelectric recorder.

Yale Rotating Clamp



The Philadelphia Division, Yale & Towne Mfg. Co., has perfected a new hydraulically operated clamp for industrial fork trucks which enables bales, bins, drums, and miscellaneous containers to be picked up and transported on the centerline of the truck. Conventional clamps and grabs of a similar nature do not have synchronized movement of arms in opening and closing, making it difficult to carry loads, unless the truck is lined up perfectly with the centerline of the load. The off-center loading resulting from these clamps makes the truck unstable, particularly when the clamp and load are rotated. When used with a rotator, the clamp does not creep off center. Loss of pressure grip in arms is minimized. A variable clamping pressure permits handling of any type load, such as fragile cartons, heavy containers, bales and boxes. The self-centering arms have an inside opening range from

17 inches minimum to 66 maximum. The clamp will handle loads up to 6,000 pounds, and can be installed on gasoline or electric trucks.

Precision Packings

Periflex, Inc., of Hazel Park, Mich., offers a line of molded packings for hydraulic and pneumatic equipment. Periflex packings are compression-molded from special fabric and neoprene compound that has unusual wear qualities and resistance to a wide variety of hydraulic fluids. These packings are compression-molded under heat and high pressure and are held to precision limits. For this reason they are superior in hydraulic and pneumatic cylinders, pumps, valves, etc., as static seals or in traverse action applications, the company states. Designs available include Cup, Flange, U ring and O ring. Hundreds of precision steel molds in standard sizes are stocked to assure prompt delivery in any quantity and Periflex operates its own tool room for matching molds for sizes and shapes not stocked. A new brochure gives complete details and lists available molds in all shapes.

Eriez Magnetic Separator

Eriez Mfg. Co. has developed a new spiked apron magnetic separator specifically designed for textile applications. Magnetic separation removes tramp iron from materials being processed, thereby preventing damage to machinery, product contamination, and—most important to textile processors—fires due to sparks. On-the-job tests indicate an extension of card and garnett clothing life four or five times beyond previous limits, and fires due to sparks from tramp iron have been virtually reduced.

A completely packaged unit ready for installation, Spike, as the separator is named, will halt tramp iron traveling in the processing lines of cotton, waste, and woolen mills. The magnets used are made of Alnico V, the best magnetic material available, and have extremely high pulling power.

Such non-electric magnetic separators are highly economical, the first cost is the last cost, and maintenance is simple; cleaning is easily accomplished by using the textile lift handles to swing back the magnet. Eriez, the leading maker of magnetic separators, fully guarantees this unit against loss of magnetic strength for the life of the unit on which it is installed. Its high efficiency is unmatched, and it is the lowest-priced unit on the market, the company claims. This separator, available in sizes to fit any feeder, is manufactured by Eriez Mfg. Co., Erie, Pa.

Expand Chlorine Facility

Pittsburgh Plate Glass Co. has announced that construction is underway on an \$8,500,000 expansion of chlorine and caustic soda producing facilities at the Natrium, W. Va., plant operated by Southern Alkali Corp., a wholly-owned subsidiary. The building program will include a new cell building for the production of chlorine and an addition to the caustic soda department. Originally granted a certificate of necessity by the Defense Production Administration covering 50 per cent of an estimated \$10,200,-

000 for the plant addition, President Harry B. Higgins announced that anticipated expenditures have been pared to \$8,500,000 or less.

In an effort to get the new plant into production of the vitally needed chlorine at the earliest possible date, officials of the firm have discarded part of their original plans which included installation of a turbo-generator for additional power supply. Power for the new plant will be purchased from a local public utility when the facility commences production in about 18 or 20 months.

The original Natrium plant was a product of World War II when existing chlorine production failed to meet the suddenly expanded wartime demand for the basic chemical. On the day before the attack on Pearl Harbor, Pittsburgh Plate's chemical executives had presented to the government plans for a chlorine-caustic soda plant on the Ohio River at the present Natrium site. The plant was built and operated by Pittsburgh for the government's Defense Plant Corp. The firm's option to buy the facility has since been exercised and two subsequent expansion programs have greatly increased the plant's production capacity since the close of World War II.

Contracts for the new plant have been let to McCloskey Co. of Pittsburgh for construction of the new cell building and to Sargent and Lundy of Chicago on the boiler installation. Employment at the Natrium plant is now 650 and approximately 35 additional employees will be added when the new plant goes into production late next year.

Flooring Booklet

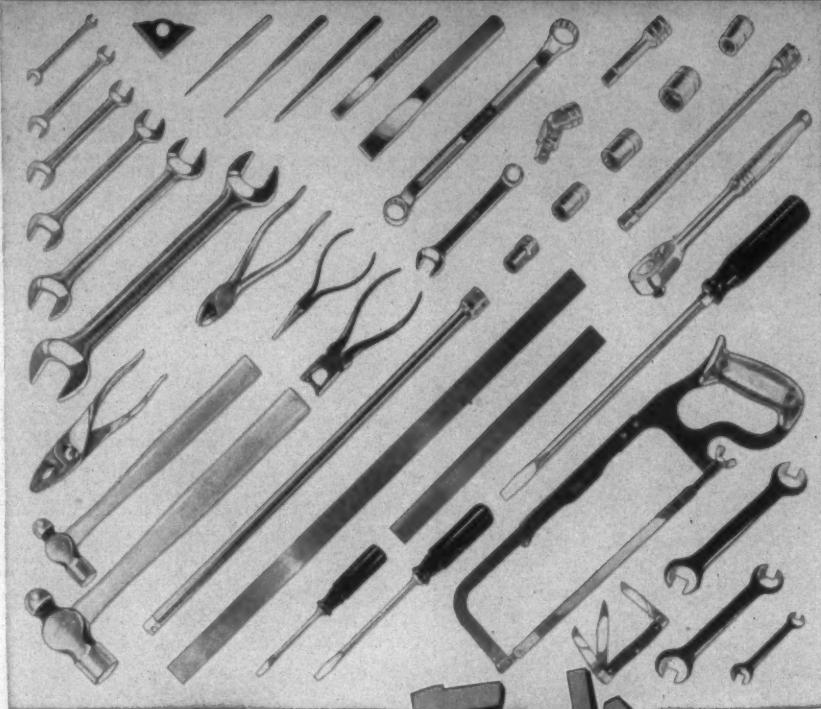
Over The Rough Spots is a new pocket-size, 32-page booklet which gives a searching analysis of flooring problems in three minutes. Graphically illustrated, it tells where to look for and how to correct bad floor conditions. It tells how to protect both concrete and wood floorings and maintain proper repair by comparatively unskilled workmen. For free copy write the Stonhard Co., 525 Stonhard Building, 1306 Spring Garden Street, Philadelphia, Pa.

Metal Specimen Containers

Atlas Electric Devices Co., manufacturer of Launder-Ometers, Fade-Ometers and Weather-Ometers, has announced that it now has available for distribution the new specimen containers for the No. 3A tentative accelerated washfastness test recently adopted by the A.A.T.C.C. This new test employing metal specimen containers, which are cylinders 3½ inches in diameter by eight inches in length, duplicates the color destruction and abrasive action of five average commercial or home launderings in just one 45-minute test—one-tenth of the time required by old test methods.

Through the use of easily installed and removed adapters, the unbreakable containers are mounted horizontally at right angles to the shaft in any standard or research model Launder-Ometer. Mounted in this fashion, the test specimens are subjected to a forceful throw, a long slide and a strong impact. The use of 100 steel balls in each container and a lower liquor volume ratio

BEST BUY! in any
loom fixer's kit



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2040-LF

***Snap-on Tools**

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quicker, surer, safer

With a carefully-planned special set of Snap-on loom fixer's tools such as these, a good loom fixer is a more valuable man—for the mill as well as himself.

He's a safer man on the job, because he's got the *right* tools—tools that fit properly, balance right, don't slip. He's faster on the job because Snap-on Tools bring out all the natural skill in a man's hands. He's surer, because, whatever the adjustment or repair, he has the tools to do it *right*.

He's a real profit factor, because his looms will show fewer breakdowns, less down-time, less sub-standard production.

The Snap-on factory-trained tool man is *always* at your service, between his regular visits. Tool surveys or special tool consultations cost you nothing. Just call your nearest Snap-on factory branch, or write—

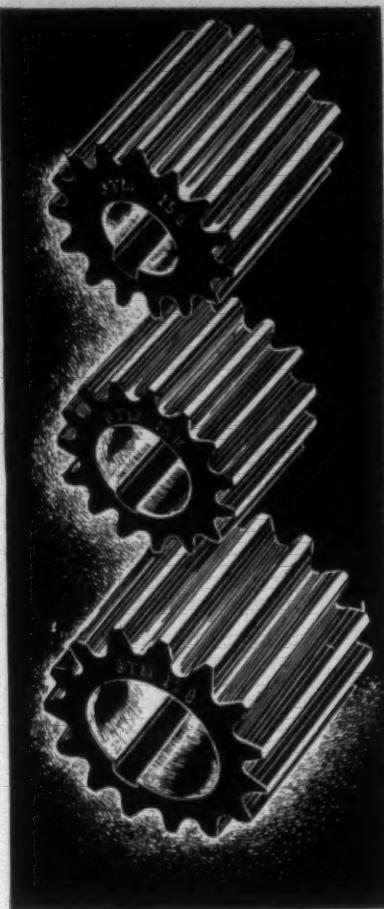
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Bahan carries the most complete stock of loom motor pinions in the South. We offer a complete range of sizes for all standard motors. Pinions are made of finest quality steel, heat treated* for maximum service, precision cut to within .001 inch concentric. All teeth are generated on modern gear shapers. Available from stock for immediate shipments.

Save time and avoid costly delays by using this convenient and complete motor pinion service.

*Write or wire us your requirements.
Your inquiries are welcome.*

*Pinions not heat treated
also carried in stock.

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TEXTILE MACHINERY CO.
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FOR THE TEXTILE INDUSTRY'S USE—

also serve to increase the abrasive action.

The tentative test is applicable to cotton or linen textiles in fabric form and is especially designed for evaluating the washfastness of colored textiles expected to withstand frequent launderings. As many as 20 samples may be tested simultaneously. Further information may be obtained by writing to Atlas Electric Devices Co., 361 W. Superior St., Chicago 10, Ill.

Nylon Setting Machine

A nylon setting machine which permanently sets nylon tricot fabric at a continuous rate of 16 yards or more per minute has been developed by the McCreary Machine Works, Inc., Cohoes, N. Y., with the assistance of the General Electric Co.'s industrial heating division.

Designed to be installed on existing tenter frames, the new machine consists of aluminum reflector units which house G-E Calrod tubular heaters. Automatic temperature control is provided by G-E Reactrol, an electronic temperature control unit which allows automatic stepless heat adjustment through thermo-couples located in the reflector frames. Although 16 yards per minute is the average machine speed, higher speeds can be accomplished by additional reflector units.

According to John McCreary, president of the company, operating costs are less than \$1 per hour. Compared with autoclave and other methods, Mr. McCreary said radiant heat setting requires only five instead of ten steps and the width of the set fabric is constant. He also pointed out that dyeing can be done either before or after setting, and that the radiant heat method is continuous instead of batch. Since the material is set while still on the tenter frame, extreme accuracy in dimension is obtained.

In operation, the operator sets the Reactrol temperature indicating controller to the predetermined setting temperature of the fabric, and pushes the button to start the tenter dive. The McCreary machine is electrically co-ordinated with the tenter drive to make the operation automatic. To prevent scorching, the reflector frames are designed to automatically raise if flow of fabric through the tenter frame stops.

According to Mr. McCreary, the new machine was designed with sufficient temperature range to treat other synthetic fabrics such as Dacron and Orlon and has numerous possible applications in both the textile and paper industries. Inquiries about the new machine should be directed to the McCreary Machine Works, Inc., Cohoes, N. Y.

New Research Laboratory

A new laboratory and research building, comprising 11,000 square feet of floor space with modern equipment, has recently been completed at the Orange, Mass., plant of Rodney Hunt Machine Co. Briefly, its three-fold purpose is: (1) to give immediate and complete facilities for translating ideas into applications; (2) to maintain a deliberate series of experiments under commercial conditions and determine new improvements

for established products; and (3) to run special tests to find answers for special customer needs.

Now some of the tests, which have been run in the field, are said to be handled more conveniently and efficiently in this Rodney Hunt laboratory. Spacious areas have been prepared with hoists and drainage pits for simulating commercial installations of such large machinery as the Tensitrol open-width washers. Steam pressure up to 150 pounds and compressed air are available. Filtered water can be supplied at 100 gallons a minute. Electricity can be introduced at 110, 440, or 550 volts. The laboratory's chemical section is equipped to run corrosion and other metallurgical tests, dyeing and washing tests pertinent to basic machinery development, as well as to answer the extensive experimentation and preparation needs of the company's new process equipment division.

Another section is devoted to developing new mechanisms and building experimental models of textile machines, industrial rolls and other company products. A company spokesman said the finest shop equipment is available, but, more important, is the ingenuity of their highly skilled machinists. Three technicians devote all their time to this laboratory work. And behind them is the direct supervision of Rodney Hunt's newly created general engineering section. Each division at Rodney Hunt is staffed to meet established engineering requirements. This allows the company's director of engineering and his staff to work on development and improvement projects for all divisions. The new laboratory now provides exceptional physical equipment for these projects, and gives Rodney Hunt greater opportunity to assist the textile wet process trades in solving their many and varied problems.

Dextrol Lektrostat B

Dextrol Lektrostat B, a new synthetic organic compound developed by the Dexter Chemical Corp., is said to answer the electrostatic problem usually encountered in the spinning and processing of nylon. Dry nylon used for textiles is an excellent insulator having a volume resistivity of 4×10^{14} ohms per centimeter and therefore tends to build up static electric charges during the spinning of the yarn and in the drying and mechanical handling of the finished fabric.

Use of the new antistatic agent is therefore said to be highly desirable for efficient processing of nylon. With respect to finished garments it is also desirable because it eliminates the several discomforts (sticking or clinging of the fabric to the body) caused by the build up of the static electric charges on the fabric. Dextrol Lektrostat B has high affinity for nylon and can therefore be added either to the dye bath or to a separate bath after dyeing. Application by the usual padding operation is also permissible. Actual plant runs with Dextrol Lektrostat B have shown that from one to three per cent of the agent on the weight of the goods will provide satisfactory results.

The new chemical, readily soluble in water and slightly alkaline in reaction, is completely compatible with anionic agents under normal processing conditions. It is

resistant to dry cleaning and washing, has a definite softening effect upon nylon fibers, but has no adverse effect upon the lightfastness of colors, it is claimed. Although specifically developed for the textile field, the properties of the new compound suggest the practicability of independent further investigation of this product by other industries faced with similar electrostatic problems.

Witco Fungicide

Witco Chemical Co. has issued a technical service report on Witco eight per cent copper naphthenate, a highly effective, economical fungicide and preservative for cellulosic materials. Because of its penetrative power and inert nature, it is a practically permanent protective agent against fungus, mold, mildew, and marine parasites, while it has no harmful effect on wood, metal, or fabric.

Water-soluble, the Witco eight per cent copper naphthenate is soluble in petroleum and oil solvents. It is generally non-toxic, an advantage over some other compounds for the purpose. Skin contact is generally non-injurious. Application is by dipping, brushing and spraying.

Common uses of Witco eight per cent copper naphthenate are: protecting cordage, baling and binder twine, canvas, tarpaulins, burlap, tents, awnings, etc. It is also an important constituent of fungicidal and anti-fouling paints. Copy of the report may be obtained by writing for Technical Service Report P-15, "Witco eight per cent Copper

Naphthenate," to Witco Chemical Co., 295 Madison Avenue, New York 17, N. Y.

Parrott & Ballentine

Smith, Drum & Co., Philadelphia, Pa., has appointed the newly-organized firm of Parrott & Ballentine, 610 South Carolina National Bank Bldg., Greenville, S. C., as its sales agent for the Southern states. Both Perry M. Parrott and Joe M. Ballentine have been connected with Smith, Drum in sales for a number of years and are widely known throughout the textile industry. They will represent Smith, Drum for its complete line of equipment which includes hosiery dyeing machines, hosiery conveyor dryers, skein dyeing equipment, package and beam dyeing machines, centrifugal and pressure extractors, cabinet and port dryers. In addition to the Smith, Drum account, the new firm has plans to handle other allied lines of machinery. These will be announced within the near future.

Narrow Lift Truck

To suit special applications, the new Load-Mobile electric lift truck manufactured by the Market Forge Co. of Everett, Mass., is equipped with a narrow lifting platform. The width of the platform is only 18 inches and can be furnished in six, seven, nine and 11-inch lowered heights to engage conventional platforms. These trucks have been built as narrow as 15 inches to meet special conditions. A set of stabilizing casters are placed on each side of this unit because of

THIS STICK CAN TAKE IT!

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3 TIMES THE WEAR

Super-Stroke Picker Sticks outwear ordinary picker sticks on an average of 3 to 1! That's because the shock - resisting vulcanized fibre insert — bonded under heat and pressure — never separates from the wood! This patented design resists splitting and warping and triples the life of the stick. Available in all styles and sizes. Order today from

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GREENVILLE, S. C.

NORRIS
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CARD CLOTHING NEWS AND VIEWS

Nylon Spinner Enjoys Runs to 9 Months with STRIP-O-MATIC*

The Wister Spinning Company, manufacturers of fine nylon yarns, had to strip every 2 to 3 weeks with conventional clothing on an 8-hour shift; with 2-shift operation weekly or oftener. Since they have clothed complete sets including cylinders and workers with Strip-O-Matic, they have increased the time between stripping to as much as 9 months. The carders now anticipate being able to run almost indefinitely without stripping. The only down time experienced is for grinding (about every 9 months, only half as frequently as with conventional wire). There is considerably less fibre breaking, and practically no stock loss with Strip-O-Matic.

Research and development is continuously improving Strip-O-Matic for carding all types of fibre including wools, blends, and synthetics. If you have tried only the first Strip-O-Matic manufactured you owe it to yourself to try today's new and greatly improved type. A Benjamin Booth representative will be glad to discuss your specific requirements without cost or obligation.

* Patented ®

Established 1892

E. J. Suyard
President

Booth

The photograph shows Strip-O-Matic following a 9 months' operation. There isn't any accumulation of stock.

BENJAMIN BOOTH COMPANY, ALLEGHENY & JANNEY STS., PHILA., PA.

FOR THE TEXTILE INDUSTRY'S USE—

the tendency of such a narrow model to tilt in making sharp turns, etc. These casters are spring-mounted and in normal operation completely clear the floor. They are called into action only when the unit tilts, whereupon heavy springs return it to normal position. The truck is battery-operated and features three-way operating positions which provide the utmost safety, comfort and maneuverability. Large capacity cushion rubber wheels with sealed ball-bearings produce the minimum drain on the battery.

Plastic Spooler Sleeve

Development of a tough new plastic yarn-carrying sleeve for use in textile mills on Barber-Colman spooling machines has been announced by the mechanical goods division, United States Rubber Co. The new sleeve is made from Uscolite, a thermoplastic blend of rubber and plastics. It is expected to reduce greatly the maintenance costs encountered by textile mills in the replacement of this yarn-carrying specialty. One mill may have between 30,000 and 50,000 of these sleeves in operation. Sleeve

replacement has run as high as 15 per cent annually. The new sleeve has more than five times the impact strength of phenolic varieties now in wide use in the industry. It will not shatter, chip nor warp. In addition, it will not nick around the edges—a frequent cause of yarn breakage, wild yarn and knots. It can be used with cotton, rayon or the newer synthetic fibers spun on the cotton system. A waffle design on the surface of the sleeve permits it to carry yarn more securely. It is available in two sizes for the principal types of Barber-Colman spoolers and in three colors—blue, gray or brown.

Ten meter is made of sturdy plate glass with a convenient over-all size of 7"x5"x1". Its scale is printed with a fired ceramic enamel so that the instrument can be used in contact with all types of solutions except those containing free fluorine ions.

Arnold, Hoffman Expands

Arnold, Hoffman & Co., Inc., associated with Imperial Chemical Industries, Ltd., London, England, has announced a major increase in the production of its Harkness and Cowling Division, Cincinnati branch plant. Expanded facilities for distillation production, as well as facilities for production of fatty acid esters, amids, plasticizers and substantive softeners, are now in operation.

General Dyestuff Circulars

General Dyestuff Corp., 435 Hudson Street, New York City, has made available to the industry the following new circulars: G-678-Acid Alizarine Brown RLL; G-679-Benzo Fast Copper BRL; G-680-Algosol Red IRRN.

Gossett Opens N.Y. Office

Ralph Gossett & Co. of Greenville, S. C., with representatives in Charlotte and Gastonia, N. C., has opened offices in the building at 11 West 42nd Street, New York City. The Gossett concern is one of the oldest and largest manufacturers' representative firms in the South. The New York office was opened principally to handle the export of textile supplies and machinery to South American and European countries. It was explained that the expanding textile industry of these countries is almost entirely dependent on the United States and England for supplies and machinery.

Seydel-Woolley Expanding

Seydel-Woolley & Co., producer of warp sizing for the textile industry, is planning construction of a 12,000 square foot addition to its plant in Atlanta, Ga., to cost about \$100,000. The new building will be devoted to manufacture of a chemical used in wet processing, which was developed by Seydel-Woolley about three years ago.

Branch Office Moved

The Atlanta, Ga., branch office of American Moistening Co. has been moved to a new location at Suite 300, 125 Ivy Street Building. Other branch offices of the firm are located at Boston, Mass., Charlotte, N. C., and Cranston, R. I.

Observes Anniversary

American Monorail Co. recently observed its 25th anniversary with publication of an attractive brochure addressed to its customers, employees, suppliers, stockholders, dealers and agents. Present directors of the company are J. P. Lawrence, president; J. L. Pischke, vice-president and treasurer; C. deV. Miller, vice-president; James A. Farrell, secretary; J. C. Roth and R. W. Edwards.

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Serving The Textile Industry

Crescent's Southern Headquarters

A NEW LINK IS FORGED IN THE EXPANDING CHAIN OF THE TEXTILE SOUTH with the official opening at Spartanburg, S. C., of new Southern headquarters for Crescent Corp., one of the world's largest textile machinery dealers. In announcing the formal opening of the new quarters, President Edward J. Ziskind states, "These important new facilities are but another phase of Crescent's broad expansion program set down by its late head, Jacob Ziskind. Surely here is concrete evidence that our company is keeping—and will continue to keep—swift pace with the rapid growth and progress of the Textile South."

The new headquarters, containing executive offices, machine shop, reconditioning department, display quarters and a huge warehouse, are planted on a picturesque rolling site off New Union Highway, about two miles from the center of Spartanburg. The building covers more than 75,000 square feet, measuring 360 feet long and 210 feet wide, and cost approximately \$300,000 to construct. Two large loading docks accommodating truck bodies of different heights are an important feature. It is also possible to drive even the largest trailer trucks through another large door directly into the warehouse for loading or unloading machinery.

James A. Connell, Southern manager for Crescent since he first started with the firm in 1936, will be in charge of the new facilities. He will continue to be assisted by his brother, Fred, as assistant manager, and S. E. Hunsuck, operating engineer.

Along the department store idea, Crescent offers a reconditioning department that is unusual. It is based on an efficient, assembly-line operation. When machinery is received, trained workers partially dismantle it to remove worn or cracked parts for replacement, or those parts that might interfere with a thorough steam-cleaning process later. The machinery is then passed along to the cleaning department. Grime, grit and grease simply vanish under either cleaning method used. One process uses pressured steam, the other combines high-pressure hot water with a grease solvent.

The mechanical engineering staff enters the picture at this point with another scrutinizing inspection of the machinery for worn or cracked parts. A completely-equipped machine shop, operated by skilled machinists, stands constantly humming, turning out machine parts that can be manufactured with machine tools. Painting the machine is the next step. Painters do it either by hand or with spray guns. To prevent any damage from rust, the unpainted parts of the machinery (such as flyers, spindles, rolls) are sprayed with a rust preventive. And after all moving parts have been thoroughly lubricated, the machinery is now

ready for immediate operation once set up in a mill.

Unless it has been sold, the machinery is moved on skids to the warehouse area. If sold, it is quickly loaded on one of the company's fleet of trucks for immediate delivery. Any machine ear-marked for export is completely dismantled, with all parts clearly identified for easy assembling later. The machinery would then be smothered with a heavy water-proofing paper, packed in shavings, and boxed. The firm incidentally, maintains its own staff of riggers, with complete equipment, to take care of removing or setting up any kind of textile machinery.

An interesting observation is that more than 75 per cent of all machinery passing through the doors at Spartanburg is rebuilt and modernized, before being re-sold. This is part of the business philosophy responsible for Crescent's phenomenal growth in only 17 years.

It was in 1936, when Jimmy Connell turned the key in Crescent's first Southern office at Charlotte, N. C. Jimmy had shed overalls worn while rebuilding and erecting textile machinery to go to work for Jack Ziskind. He is presently the second oldest employee in years of service. As this headquarters became busily engaged in a number of big deals involving Southern mills, it eventually expanded still further, operating warehouses in Henderson, Ky.; Gaffney, S. C.; Columbus, Ga.; Florence, Ala.; McComb, Miss.; among others.

Some of these places mentioned reflect another important insight into the business principles of Crescent Corp. Jacob Ziskind, late president and founder of the company, was one of the textile men who proclaimed that good used textile machinery could and should be salvaged, rather than junked. The decision to liquidate a mill property had already been made by the owners, before being sold to Crescent. But in taking over, the used mill machinery organization

first made every effort to continue it as a going concern, or to put it back into operation in order to retain the industry in the town.

Where this wasn't possible, Crescent succeeded in finding other industries to take over the property resulting in increased employment in most instances. Examples of these constructive "industry-building" activities include, in Henderson, Ky., the Henderson Cotton Mills, now operated by the Bear Brand Hosiery people; the huge Meritas Mills, owned today by Bibb Mfg. Co. in Columbus, Ga.; and Lone Star Cotton Mills at El Paso, Tex.

Crescent Corp. maintains its main office at Fall River, Mass. Its export office in New York probably exports more used mill machinery than the rest of the industry together. The company conveniently serves customers from its eight huge warehouses strategically located in the nation's leading textile centers. The huge scope of its operations is shown in the fact that the company today occupies more than 2,500,000 square feet of warehouse space.

During the past five years, this machinery firm has consumed about 3,750,000 board feet of lumber in crating and boxing machinery for shipment. More than 150,000 pounds of nails, 450,000 feet of waterproofing paper and 5,000 bales of wood shavings were also used during that period.

Surveys, estimates, plant layouts and complete reports (including power) on textile plants are a few of the many wide services offered by the firm's engineering department. The company also maintains what is considered to be the largest inventory of all types and makes of used textile machinery. Another policy established by Jack Ziskind was to keep in inventory on hand all the complementary machinery necessary to operate a going mill as a unit. Right now, the firm has in warehouses several spinning, weaving and finishing units ready for immediate operation.



Exterior view of the recently opened Crescent Corp. plant at Spartanburg, S. C.

T.R.I. Reorganized As N.J. Corporation

Andre Blumenthal, president of Textile Research Institute, announced recently that Textile Research Institute has incorporated in the State of New Jersey as an "institution of learning." The new corporation succeeds Textile Research, Inc., of New York. Formal establishment of the New Jersey corporation became effective last month at which time all property, obligations, responsibilities and functions of Textile Research Institute, Inc., of New York passed from control of the old board of directors to the newly elected board of trustees of Textile Research Institute of New Jersey.

The membership of the two boards is the same and is composed of the following persons: F. Eugene Ackerman, president, The Wool Bureau, Inc.; Dr. Norman C. Armitage, president, Deering, Milliken Research Trust; Andre Blumenthal, vice-president and assistant general manager, Sidney Blumenthal & Co., Inc.; Dr. Joseph H. Brant, director of research, Toni Co.; Robert Burns, Celanese Corp. of America; Dr. Miles A. Dahlen, director of sales, organic chemicals department, E. I. du Pont de Nemours & Co., Inc.; Charles F. Fowler, U. S. Rubber Co.; Ephraim Freedman, bureau of standards, R. H. Macy & Co.; J. B. Goldberg, research director, J. P. Stevens & Co., Inc.; Dr. Thomas G. Hawley, Jr., director of research, United Merchants Laboratories, Inc.; Bertrand W. Hayward, director, Philadelphia Textile Institute; Dr. G. P. Hoff, manager, rayon department, E. I. du Pont de Nemours and Co., Inc.; Percy S. Howe, Jr., president, American Thread Co.; Richard T. Kropf, vice-president, Belding Heminway Co., Inc.; Jules Labarthe, Jr., senior fellow, Mellon Institute of Industrial Research; C. H. Masland, II, C. H. Masland & Sons; F. Everett Nutter, vice-president, Goodall-Sanford, Inc.; Edward T. Pickard, secretary and treasurer, The Textile Foun-

dation; Donald H. Powers, director of research, Warner-Hudnut Co., Inc.; H. Wickliffe Rose, general assistant to president, American Viscose Corp.; W. Bailey Sellars, director of research and development and vice-president, Burlington Mills Corp.; H. Gordon Smith, vice-president and general manager, U. S. Rubber Co.; Dr. Leonard Smith, director of utilization research, National Cotton Council of America; Kenneth Wilson, vice-president, Forstmann Woolen Co.

All officers of the old corporation were also elected to similar positions with the New Jersey corporation. They are as follows: Andre Blumenthal, president; H. Gordon Smith, vice-president; Richard T. Kropf, treasurer; P. C. Alford, Jr., secretary.

Dr. John H. Dillon, director of research, has been designated director of the Textile Research Institute in recognition of his function as operational head of all departments of the institute. Dr. James H. Wakelin, formerly associate director of research, succeeds Dr. Dillon as director of research. All other staff members retain their present assignments. The publication department will remain at its present address at 10 East 40th Street, New York City.

Mr. Blumenthal placed emphasis on the fact that the institute's program, objectives, method of operation, and relationships with industry will continue unchanged under the New Jersey charter. He stated that a need had long been felt for formal and legal recognition of Textile Research Institute's role in graduate education. Under the present system, institute research fellows pursue graduate studies at Princeton University and receive their Ph.D. degrees from the university. Thesis research is accomplished in the institute's laboratories on textile subjects under the direction of the institute's staff.

Upon approval of Textile Research Institute as an insti-



Textile Research Institute officials posing. Front row, left to right: W. Bailey Sellars, Ephraim Freedman, James H. Wakelin, Kenneth Wilson, Andre Blumenthal, J. H. Dillon, C. H. Masland, II, Charles F. Fowler and H. Wickliffe Rose.

Back row, same order: Richard T. Kropf, Paul C. Alford, Jr., Donald H. Powers, Bertrand W. Hayward, Julian S. Jacobs, Percy S. Howe, Jr., F. Everett Nutter and K. Lanse Turner.

tution of learning by the Department of Education and the State Department of New Jersey and in consideration of the fact that both the administrative and operating staffs are located permanently in Princeton, the board of directors recommended the corporate change to the membership which voted overwhelmingly in favor of the move at a special meeting held in the institute's Princeton laboratory.

The research advisory committee for the dyeing project of the Textile Research Institute met June 18 at the institute laboratories in Princeton to discuss the research work done on the project during the last six months. The group was addressed by Dr. J. H. Dillon, director of the institute, and Dr. H. J. White, Jr., who is directly in charge of the dyeing research. Dr. White emphasized that the data on the uptake of alkali halides by hair seemed to indicate that the mode of interaction of the fiber with the salt was the same for all of the salts studied thus far. It was announced that Hans Schott, who recently received an M.S. degree in chemistry from the University of Southern California, has joined the institute staff and will work on the dyeing project.

The working committee of the wool research project, conducted jointly by Forstmann Woolen Co., Passaic, N. J., and T.R.I. met at Botany Mills, Inc., in Passaic, June 21 to discuss the current status of the research processing trials on the foreign and domestic wools under study. The wool research project is sponsored by The Wool Bureau, Inc., acting for the American Wool Council and the International Wool Secretariat; the National Wool Trade Association; the United States Department of Agriculture; the Office of Naval Research of the Navy Department; and a number of American wool manufacturers.

The results of the project to date indicate that there is a remarkable degree of similarity in the basic physical properties of the Australian and New Zealand wools and comparable domestic wools studied. The research work at Princeton has shown that throughout the resting period and in the physical processing there are no significant changes in the basic properties of single fibers. The most important changes in wool throughout the resting period pertain to the assemblies of fibers in the form of top and roving. Resting the wool definitely results in an appreciable increase in the strength of top and roving. These changes correspond to increases in the efficiency of worsted operation as studied by Forstmann Woolen Co.

Werner von Bergen, director of research at Forstmann, reviewed the results of processing trials on the New Zealand and domestic medium wools currently being studied

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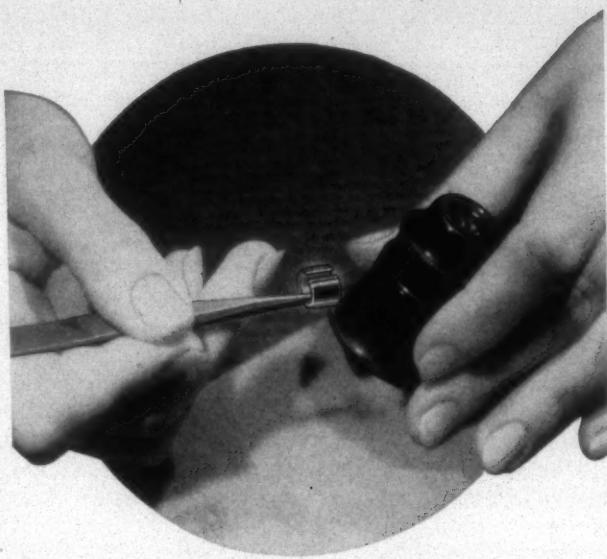
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throughout worsted manufacture at the Forstmann Woolen Co. Harold Wolf and Claude Clutz also reported on the various phases of these processing operations. J. H. Wake- lin, director of research of T.R.I. gave a summary presentation of the principal results obtained on both the fine and medium wool samples at Princeton. New laboratory methods have been developed for studying the physical properties of single fibers and of such fiber assemblies as top, roving, and yarn, in order to investigate more closely the changes which occur in wool during the resting periods after the manufacture of top, roving, and yarn.

The fifth meeting of the research advisory committee of the wool research project was held June 22 at the T.R.I. laboratories in Princeton. Staff members of the institute reported the details of various phases of their work on the wool research project. H. M. Burte discussed the results of aging studies on top, roving and yarn. T. F. Evans discussed the improved single fiber techniques and the results obtained using these new techniques on Australian and domestic fine wools throughout the aging period and through worsted manufacture. D. J. Montgomery gave a detailed account of studies of the energy to uncrimp single wool fibers as this energy is altered during the aging period. R. O. Steele discussed the work of his group on organic chemical studies of the four master wools. J. C. Whitwell presented the results of studies of surface modification using the Pauly staining technique and showing how the surface of the wool fibers is modified at successive stages in their worsted manufacture. Werner von Bergen of Forstmann Woolen Co. reviewed the progress of his group in analyzing the processing operations on the four master wools. These operations include a complete study of the physical and chemical characteristics of each of the four lots of wool as each lot progresses through worsted manufacture to the finished cloth.

Rayon Shipments For June Listed

Rayon shipments in June totaling 107,900,000 pounds were three per cent below the 110,900,000 pounds shipped in May, according to the *Rayon Organon*, statistical bulletin of the Textile Economics Bureau, Inc. Shipments in the first six months of 1951 totaling 643,300,000 pounds set a new high record for any corresponding half-yearly period. They were seven per cent over the shipments in January-June period of 1950.

Rayon filament yarn shipments in June amounted to 82,000,000 pounds, a figure equal to the deliveries in May. In the filament yarn category, viscose high tenacity yarn shipments totaled 26,600,000 pounds, an increase of two per cent over May; viscose-cupra yarn amounted to 26,600,000 pounds, a decline of four per cent; acetate filament yarn shipments were 28,800,000 pounds, a gain of two per cent. Viscose staple plus tow shipments totaled 14,700,000 pounds, a loss of 15 per cent compared to May; and acetate staple plus tow shipments amounted to 11,200,000 pounds, a loss of four per cent.

At the end of June producers' stocks of rayon filament yarn amounted to 12,700,000 pounds which compares with 11,300,000 pounds held at the end of May. Filament yarn stocks held at the end of June consisted of 8,900,000 pounds of viscose-cupra yarn and 3,800,000 pounds of acetate yarn. Producers held 4,200,000 pounds of rayon staple plus tow stocks at the end of June which compared with

4,700,000 pounds held at the end of May. Staple and tow stocks held at the end of June were made up of 3,000,000 pounds of viscose staple plus tow and 1,200,000 pounds of acetate staple plus tow.

The *Organon* tabulation of rayon staple imports in May shows that 5,022,000 pounds were shipped into the country, indicating the continuation of the downward trend since the first of the year. Principal suppliers of rayon staple to the United States for the first five months of the year were first Germany, which supplied nearly one-quarter of the total amount, Italy, the United Kingdom, France, Switzerland, Norway, and Sweden, in that order.

May imports of rayon filament yarn by the United States amounted to 554,000 pounds, the lowest monthly total for 1951 and filament yarn imports declined from month to month in line with the declining trend of rayon staple imports. The total filament yarn imports for the first five months of 1951 amounted to 4,728,000 pounds compared with only 320,000 pounds for the corresponding period of 1950. Italy shipped 29 per cent of the filament yarn received here from abroad, Germany 15 per cent, France 14 per cent, Switzerland nine per cent, Cuba eight per cent, Canada and the Netherlands seven per cent each, and all other countries 11 per cent.

Outlining the history of tariff reductions on rayon from 1930 until the present time, the *Organon* observes that the original Reciprocal Trade Agreements Act in 1934 stated that the rates of duty on negotiated items could be reduced by as much as one-half of the 1930 Tariff Act rate. In a subsequent post-war extension of the act, the allowable reductions could be as much as one-half of the Jan. 1, 1945 rate. It is found, therefore, that the current rates of certain rayon items as negotiated at Torquay are less than one-half of the original 1930 Tariff Act rates. Reductions of more than one-half occurred in the ad valorem and/or in the specific rates on waste rags and clips of rayon, woven fabric in the piece, pile fabrics, fabrics with fast edges not over 12 inches wide, and certain lace and veiling items.

A study made of the use of rayon in carpet manufacture by the *Organon* reveals that with little change in total fiber consumption, rayon used through Feb., 1951, was five times as large as it was a year ago, while raw wool consumption fell off 15 per cent. Raw wool consumption at a weekly average of 3,998,000 pounds constituted 85 per cent of the fiber used in 1950. In 1951 consumption fell to 3,396,000 pounds a week or 74.3 per cent of the total fiber. Rayon consumption in the carpet industry rose from 107,000 pounds weekly average in 1950 to 551,000 pounds, a gain of 415 per cent. Rayon fiber now constitutes 12.1 per cent of the total fiber as against 2.3 per cent a year ago.

The *Organon* reports that the use of rayon and other man-made fibers in the manufacture of carpets and rugs, both as 100 per cent rayon or as blends of rayon and wool have been found most satisfactory in consumer use, based on style, quality and price. Moreover, manufacturers report ease of handling the fiber once the techniques have been learned.

It is interesting to recall, the *Organon* points out, that carpet wool is one of the very few raw materials used in this country which is 100 per cent imported. This obviously has placed the carpet manufacturer entirely at the mercy of the foreign wool grower not only as regards his supply but especially as regards the price. Successful use of rayon

and other man-made fibers therefore will increasingly allow domestic carpet manufacturers an alternative source of fiber in the future at a steadier price.

The industry, it was added, can avoid such things as China's embargo on all wool exports and India's order not only limiting exports to 15,000,000 pounds per year but also imposing a 30 per cent export duty on all wool shipments, factors that are all outside the carpet manufacturer's control.

Role Of Salesman Is Theme For New Book

The role of the salesman in American industry has been made the subject of a new book, *Harry Riemer's Brief For Salesmen—The Front Line of Industry*, just published by Fairchild Publications, Inc. Harry Riemer, widely-known editor of *Daily News Record* and president of the Textile Square Club for the past 20 years, has written this book as an aid to salesmen in all lines of business. He describes the vital part a sales staff plays in building a successful organization, and establishes a method of conduct for salesmen as the "ambassadors of good will" for their firms and their products. Similarly, an employer's responsibilities toward his sales staff is stressed so that, in effect, the book presents an informal code of ethics for management and the salesmen. The book is priced at \$2 a copy, and to promote good salesmanship even further, \$1 of the purchase price of each copy will be divided between the two leading national salesmen's organizations—the Bureau of Salesmen's National Associations and the National Council of Salesmen's Organizations.

Book Tells Story Of N.C. Textile School

The story of how North Carolina State College's School of Textiles has grown from a physical plant consisting of "a roving reel, a yarn reel, a pair of scales, and a set of cotton samples" to the world's largest institution of its kind is told in a new book written by Prof. Thomas R. Hart. Professor Hart's book, 230 pages long, recounts the early struggles of the school, which had its beginning in 1899, and outlines the philosophy of teaching and research which has motivated the school's operations through the years.

The illustrated book, published by the North Carolina State College Print Shop, contains seven chapters, each devoted to a separate phase of the institution's history and its significance to the nation's textile industry.

The author, now director of instruction in the School of Textiles and a member of the college faculty since 1919, pays tribute to the early leaders of the movement which culminated in the establishment of the school. Among those cited are the late D. A. Tompkins of Charlotte, N. C., and the late Associate Justice Heriot Clarkson of the North Carolina Supreme Court, who, as a young Charlotte lawyer, added his support to the formation of the new school. Professor Hart also praises the work of Dr. Thomas Nelson of Raleigh, first dean of the school; Senator Clyde R. Hoey; and Malcolm E. Campbell, present dean of the school.

The role of the North Carolina Textile Foundation, Inc., in fostering the development and advancement of the school is also cited as well as the accomplishments of scores of alumni and teachers, many of whom devoted the major portion of their lives in the school's service.

Development of the curricula, which provide a balance between the humanities and technical subjects, is outlined

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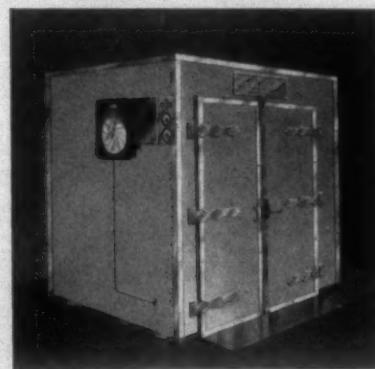
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along with a list of the teachers and administrative officials who have been on the staff since the school was established. The last chapter in the book contains a list of all alumni of the college's School of Textiles, grouped together by classes.

Title of Professor Hart's book is *The School of Textiles, N. C. State College, Its Past and Present*. Copies may be obtained by writing to Prof. Thomas R. Hart, School of Textiles, North Carolina State College, Raleigh.

Professor Hart is the author of *Color and Its Application to Textile Design*, co-author with Dr. Thomas Nelson of *Cloth Calculations*, and has contributed scores of articles to textile journals. A native of Monroe, N. C., Professor Hart was graduated from State College in 1913 with a B.E. degree and won his T.E. degree from the college in 1920. Four years later he took his M.S. degree. He is a former head of the department of weaving and designing in the School of Textiles.

In addition to his connections with the college, he has worked in cotton mills at Monroe and Burlington, N. C., in the experimental department of the Barber-Colman Co., Rockford, Ill., and as traveling erector for the Draper Corp. of Hopedale, Mass. A veteran of World War I, Prof. Hart spent 14 months overseas. He attended the A.E.F. University at Beaune, France, before returning to this country.

Group To Study German Cotton Mills

A team of four management and textile men from Wallace Clark & Co., Inc., international management consultants of New York, headed by Norman E. Horn, director of foreign operations, have begun a three-month study of the cotton spinning and weaving mills of West Germany, under the sponsorship of the Economic Co-operation Administration and the German Mission to E.C.A. This is the first privately conducted survey of the German textile industry; it will give the cotton textile mills a program for development and improvement, thus strengthening an important segment of the German economy.

The specific purpose of the survey is to make recommendations to increase output with present equipment, as well as new equipment that may be acquired later with additional capital investment; also long-range recommendations on general management policies, including marketing, research, and other programs. With Mr. Horn on the mission are Prof. John F. Bogdan, of the North Carolina State College School of Textiles, P. M. Feltham, textile engineer, and John E. Turcotte, of the Philadelphia Textile School.

Fiberglas Manual Available To Weavers

Fiberglas Yarns for the Textile Industry, first comprehensive manual of its kind, is being offered to weavers, converters, processors and textile schools by Owens-Corning Fiberglas Corp. The new 36-page booklet contains up-to-date descriptive information on techniques for weaving, finishing and otherwise processing Fiberglas yarns into cloths, tapes, braids and sleeveings. Compiled under direction of Harry E. Mahler, manager of weavers sales and service, Fiberglas Textile Products Division, the manual reflects years of co-operative research and development work by Owens-Corning with its weavers, converters, and other textile products customers. Fiberglas yarn manufacturing processes are described in the manual; characteristics of various yarn types listed; nomenclature for Fiberglas yarn

identification explained. Also included is a comparison table showing equivalent constructions of Fiberglas, wool, cotton and rayon yarns. The booklet may be obtained by writing Mr. Mahler, Textile Products Division, Owens-Corning Fiberglas Corp., 16 East 56th Street, New York 22, N. Y.

First Fiberglas Yarn Plant Marks Anniversary

Tenth anniversary of the Fiberglas yarn plant in Ashton, R. I., the world's first such factory, was marked June 2 by an open house for families of employees. Approximately 2,500 family visitors to the plant open house saw displays of the diversified end uses for Fiberglas yarns—as a base material for electrical insulation, to reinforce plastics, for vinyl and rubber-coated fabrics, to reinforce papers and tapes, for decorative curtain and drapery materials and in a host of other applications.

The Ashton Fiberglas yarn plant's tenth anniversary was cited by John H. Thomas, vice-president of Owens-Corning Fiberglas Corp. and general manager of the Fiberglas textile products division, as marking an important milestone in the development of an industry supplying a basically new, unique raw material. Also, the pointed out, the anniversary again finds a large share of Fiberglas products being turned out for defense needs. He recalled that urgent defense demands for Fiberglas yarns originally prompted Owens-Corning to acquire the Ashton plant, in which production was started on June 2, 1941. The plant was the long-idle Lonsdale Co. mill—a four-story plant on the banks of the Blackstone River. During World War II, the Ashton Fiberglas yarn plant won many citations for its outstanding production, including five Army-Navy "E" awards.

Now and since outbreak of the Korean conflict, Mr. Thomas reported, increasingly large amounts of the Ashton plant production are to meet military requirements. In contrast to the plant's beginning which was launched by an initial crew of 15, a total of more than 18,000 spindles are now in continuous round-the-clock operation, seven days a week.

The Ashton plant's importance to the over-all operations of Owens-Corning Fiberglas Corp. was highlighted in March, 1949, when Owens-Corning set up textile products as a separate company division.

Since operations were started at Ashton, Owens-Corning has added Fiberglas yarn production facilities in a second plant at Huntingdon, Pa. That was in 1943. A third such plant is now under construction in Anderson, S. C., and initial production commenced there this month. Fiberglas insulating wools, air filters, and mat products are made at Owens-Corning plants in Newark, O.; Kansas City, Kans., and Santa Clara, Calif. General offices are in Toledo, Ohio, and headquarters of the textile products division are in New York City.

May Revise U.S.-Egyptian Cotton Standards

The U. S. Department of Agriculture announced last month that consideration is being given to revision of the standards for grades of American-Egyptian cotton. Currently there are two sets of standards for American-Egyptian cotton: One for the Pima variety, and one for the SxP variety. Officials stated that both of these varieties are rapidly going out of production, and that it is essential that

the standards be changed at the earliest possible moment to fit current crops of this important growth of cotton. It is proposed that the revised standards become effective on and after Aug. 1, 1952.

The department stated that in response to the urgent need for revision of the standards, department specialists carefully surveyed the 1950-51 crop of American-Egyptian cotton, and assembled a proposed set of new grade standards. The boxes containing the proposed standards were presented to various members of the cotton industry and trade for suggestions, and where practicable these suggestions have been incorporated into the proposed standards.

Before recommending the promulgation of the new and revised standards, the department invited industry comments and viewing of the grade boxes which were on display in the cotton classing room of the Agriculture Annex Building, Washington, D. C., on June 25.

Hertwig Testifies Against Tax Increases

Additional revenue needed by the government to meet defense costs is assured by "the great upsurge of industrial activity and national income" without further heavy tax burdens on the American people, Charles C. Hertwig, president of the American Cotton Manufacturers Institute, asserted July 16 before the Senate Finance Committee at Washington.

Calling attention to "the remarkable speed with which underlying economic changes have occurred within the past six months," the Macon, Ga., manufacturer said there is "sound reason to believe that the greater part of the additional revenues, which may justifiably be needed, will be supplied from the increased volume of national income without benefit of further changes in tax rates."

Mr. Hertwig, testifying on the government's new tax bill, said America's agricultural and industrial output "has exceeded all expectations" and "has met and solved the problem of inflation in so far as it can be solved by private action." He also asserted that "this productive power is adequate to meet prospective defense needs without impairment of civilian requirements."

Not only did the U. S. Treasury show a 3.5 billion dollars surplus on June 30 instead of the 2.7 billion deficit which had been expected, but the government's net receipts were 11 billion more during the past year than in the fiscal year of 1950, Mr. Hertwig testified. He also referred to a Treasury Department report just issued showing that the government's income tax and Social Security tax receipts for the first 11 days of July, this year, are running 145 per cent greater than for the first 11 days of July, 1950. "Since the Korean war it has been customary to regard increased taxation as a necessary weapon with which to fight inflation," Mr. Hertwig said. "Until three months ago we ourselves accepted this doctrine. We now know that this attitude was the natural result of: (1) the scare buying of the early war period, (2) a general under-estimate of the nation's productive power, and (3) an exaggerated estimate of the nation's military requirements relative to the adequacy of facilities for supplying them.

"What has actually happened is that the nation's productive power both with respect to agriculture and industry has exceeded all expectations. Defense spending in the fiscal year ending June 30 was 20.34 billion dollars, most of it concentrated in the last seven months, yet the nation took

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TEXTILE ENGINEERING

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RAYON
WOOL
SILK
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Plans and designs for all types
of projects related to the textile
industry. Appraisals, moderniza-
tion studies, machinery layouts,
air-conditioning, power and
water filtration plants, and other
phases of textile engineering.

ROBERT AND COMPANY ASSOCIATES

Architects and Engineers
ATLANTA

this diversion of product without visible strain. The few exceptions to the condition of plenty are confined to strategic war materials; and even in this category the cutbacks in manufacture for civilian consumption have not produced visible scarcity as is indicated by the ready availability of automobiles, refrigerators, television sets and other appliances. Clearly American productive power and the unexpected balancing of the budget have stopped the inflationary trend for the time being. . . . Agriculture and industry are now dealing with a capacity and with a rate of production which look forward to increased government buying not as an inflationary influence, but as a sustaining influence."

With respect to individual income tax rates, Mr. Hertwig

expressed "grave doubt of the wisdom of any increases over those contained in the 1950 Act. The hardship of the average individual under existing rates is known to all of us. In large part, the proposal to increase individual rates was actuated by the theory that the surplus spending power of the public should be taxed away as an anti-inflationary device. The idea is fallacious because surplus spending power is the only source of savings which should be diverted into investment rather than be confiscated." Taking into consideration that tax increases on individuals add to the cost-of-living and could be a step-ladder to further inflation, the textile executive said, "the individual tax increases for 1951 already provided for in the Act of 1950 have reached the limits of safety as regards both the economy and the public welfare."

Industrial Engineers

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PITCH BAND
REEDS

Waynesboro plant since November, 1950, succeeds Mr. Scarborough as manager of the plant.

Henry C. Froehling, an assistant director of sales, becomes director of sales for acetate rayon. George S. Demme continues as director of sales for Orlon acrylic fiber, and Leonard A. Yerkes, Jr., will continue as assistant director of sales for Orlon. Mr. Yerkes will also be in charge of sales promotion and development and fabric development. W. D. R. Straughn, manager of the technical service section, becomes assistant director of sales for acetate rayon.

Textile Accident Frequency Rate Declines

American workers were a lot safer in 1950, the National Safety Council reports. Industrial injury rates for last year, released by the council in advance of the 1951 edition of its annual statistical yearbook, *Accident Facts*, show a substantial reduction in both frequency and severity of 1950 accidents as compared with 1949. Twenty-nine of the 40 basic industry classifications reduced their frequency rates, and 23 reduced severity rates. The accident frequency rate for employees in all industries submitting company reports to the council, based on the number of disabling injuries per 1,000,000 man-hours, was 9.3 in 1950—a reduction of eight per cent from the year before.

The accident frequency rate and severity rate for the textile industry both were well below the all-industry average. The accident frequency rate for the textile industry was 7.76, a decline of two per cent from 1949. The textile accident severity rate for 1950 was .61, seven per cent greater than it was in 1949, but still below the 1950 all-industry average of .94.

Anti-Inflation Fight Given New Weapon

With an advertisement headed "There is Something You Can Do About Inflation," Bemis Bros. Bag Co. is launching a campaign unique in business and industrial circles. The advertisement, the first of a series aimed at giving employers a new employee communications tool in the fight against inflation and attendant national dangers, is appearing in *Time* magazine and some 40 trade publications in fields served by Bemis.

The advertisement recommends that other employers distribute to their employees a 16-page anti-inflation "comic book" on which the Bemis personnel and advertising departments collaborated with Pictorial Media, New York, leading comic book producers. The book, titled *How Stalin Hopes We Will Destroy America*, has been distributed to Bemis' 10,000 factory and office employees across the country.

To determine the value of the book in workers' hands before recommending it to other employers, Bemis arranged for an impartial test in its factories by the Psychological Corp. of New York under the direction of Dr. Henry C. Link, nationally known psychological researcher. The tests dealt with interest, readership, comprehension and change of attitude. Dr. Link reported "Workers exposed to the book were found to have a significantly higher appreciation of recommended ways to stop inflation than did workers who did not see it."

The project began when Bemis asked its agency, Gardner Advertising Co., to recommend an effective use of advertising in promoting a "Freedom of the Individual" program. Feeling that much of the so-called "American way" adver-

PINS and LAGS



A BIG MODERN PLANT PLUS 80 YEARS of EXPERIENCE

It means that you can speed your production by making use of all the knowledge we have gained on needle-pointed specialties for the preparation of wool and other fibers. In all the field—no plant like this—no such rich fund of experience—no such quality. Your inquiries will receive prompt attention.

WILLIAM CRABB & CO.
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Special Machines Quoted On Upon Request

tising failed to reach the desired audience, Gardner suggested comic books as the best communication medium, and proposed that Bemis locate or create such books, test them with Bemis employees and encourage distribution by other employers.

Such a program, it was felt, would be of particular help to medium and small-size businesses which do not have facilities for developing their own employee-communication material. A survey conducted by Gardner revealed that relatively few, even among the major employers of the country, have effective employee programs dealing with free enterprise, the American way of life, and related subjects.

Three general areas of national danger—inflation, productivity inadequate for expanded needs and permanent loss or weakening of our personal and national economic freedoms—are considered by Bemis to be topmost as subjects for employee messages. Inflation is the primary target of attack in *How Stalin Hopes We Will Destroy America*. Work is under way on subsequent books on productivity and the need to regain our economic freedoms when the period of military emergency is over.

The Bemis-sponsored advertisements direct interested employers to address inquiries regarding the anti-inflation book to Pictorial Media, Inc., 205 East 42nd Street, New York 17, N. Y.

Rayon Plant Established In Venezuela

Celanese Venezolana, a new rayon yarn company organized principally by the Celanese Corp. of America in co-operation with Venezuelan textile interests, has been established in Venezuela, it was announced June 5 in Caracas by George H. Richards, vice-president of the Celanese Corp. of America. Capital for the new company was oversubscribed, with nearly all Venezuelan users of rayon yarns participating as shareholders, Mr. Richards said. Construction of the new plant will begin shortly, with necessary equipment being shipped from the United States under special license permitting export of the restricted items required.

The company may enter production of viscose yarn and staple in Venezuela if local demand justifies, and the pro-

duction of industrial chemicals from petroleum, similar to those produced by the Celanese Corp. in its Texas chemical operations, is foreseen. Offices of the new company are in Caracas with Clifford Doolittle of the Celanese Corp. as general manager.

As the first rayon plant in Venezuela, the new operation will be an important factor in the industrial growth of the country, Mr. Richards said, and the development is seen as of prime importance because of the world-wide shortage of the materials which will be produced. Directors of the new company include Harold Blanke, Roland O. Gilbert, George H. Richards and George Schneider, all of the Celanese Corp. of America; and Celso Serna, Rafael Szmarak and Leon Taurel of Banco de Venezuela. Venezuelan chemists and engineers, who are to be trained in Celanese U. S. plants, are to be employed by the new company, occupying key positions following their period of training in the U. S.

I.C.S. Catalog Outlines Textile Courses

International Correspondence Schools, Scranton, Pa., recently made available a revised edition of its catalog outlining its home study course in textile engineering and other textile courses offered by the school. According to John K. Stearns, director of the school of textiles, the significant feature of the new I.C.S. textile engineering course is its adaptability to the specific requirements of many different jobs in the textile industry. The new course, he said, first teaches a broad working knowledge of textiles and textile manufacturing processes. From that point on, each student is trained in the skills of the particular textile engineering job that he or his employer has selected. Mr. Stearns states that it is the first course of its kind to be offered through the correspondence training system.

Japanese Mission Visits American Viscose

A party of six officials from the textile industry of Japan arrived in this country June 27 to follow up an investigation made earlier this year in Japan by American Viscose Corp. The purpose of the investigation is to see what might be



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worked out as a joint enterprise for the production in Japan of acetate yarn and staple. The six Japanese, who are meeting in Philadelphia with officials of American Viscose Corp., are as follows: K. Ito, president; Y. Yamawaki and H. Ito, managing directors, represent Dai Nippon Celluloid Co., Ltd., producer of chemicals and acetate fiber; S. Mori, president, and A. Kikuchi, managing director, represent Teikoku Jinzo Kenshi Kaisha, Ltd., the oldest and largest producer of viscose rayon in Japan, and K. Ohata, president of the Synthetic Textile Testing Association Foundation. It is understood that their visit here, which is concerned both with technical aid and investment, may be completed within a few weeks.

Popularity Of Fluorescent Shades Noted

Addressing the Carolina-Piedmont Section of the American Chemical Society in Albemarle, N. C., recently, Dr. J. Robert Bonnar, technical director of General Dyestuff Corp., told the chemists that the new fluorescent shades seem "to be fast getting to the point where they will be with us for a long time for certain types of materials."

By a series of examples drawn from other fields, as well as textiles, Mr. Bonnar emphasized to his audience that "dyeing and coloring has turned very decidedly to science for its progress in the last ten to 15 years and thus the science of color application has taken its rightful place among the other sciences."

"Just as in every business on straight-line products, the textile industry has gone into continuous, high-speed dyeing," Mr. Bonnar continued. "This was only made possible by the proper design on equipment calling for high temperatures. But this then destroyed the dyestuff used under the presently-in-force method of dyeing."

"Through proper scientific investigation using reduction potential measurements, it is now possible to produce the correct shade even with the high temperatures, as against the destroyed shade which was the result of the first investigations. Subsequent installation of proper controls now makes this an every-day run easily procedure."

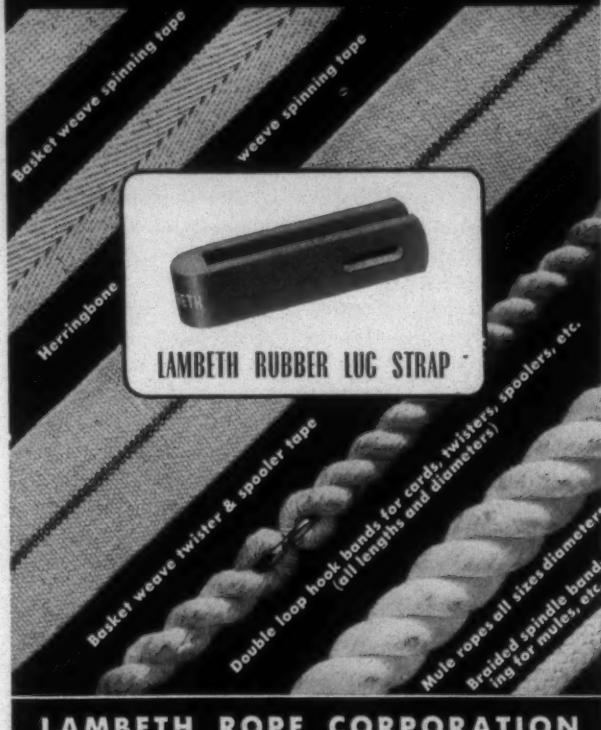
"Acetate rayon and several other types of synthetic fibers have, through proper understanding of dispersion knowledge and phase rule, been classified as dyeable. The fibers are dyed by a formation of solid solution which, without this background and understanding, would not be produced in the bright, quality colors that we have today."

"Scientific knowledge of rates of reaction has been utilized by dye manufacturers for chemical reaction application using the rate of reaction as a direct function of surface area, this resulting in much better package machine dyeing. . . . I can't help but add at this time that even the simplest type of chemical sensitivity control has been utilized and the effect felt without too much thought."

"The old type, vest-pocket dyer used to do this by taste and feel or just plain bull luck, whereas he now understands, or has access to personnel who understand, pH control, temperature control, automatic continuous measuring devices of all kinds."

"The scientist from a chemical and chemical engineering standpoint has, of course, been paramount in the gradually improved dyestuff as chemical compounds over a period of years. You can readily realize this when you think of shirts which used to fade after several launderings, socks which always bled and washed down from bright greens to dirty grays, scarlets to light pinks, and so forth, and housewives

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Dealers in Wool Tops of All Grades
Suitable for Blends With Cotton and
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whose housedress never looked too fresh after several washings but which today is still the bright colored garment she purchased, even after 40 or 50 launderings.

"Not only have these chemical discoveries made the dyestuffs better, but have led the dyestuff manufacturer to bring out chemicals which, when added to slightly inferior dyestuffs, have properties far excelling the original dyestuff."

Book Lists Fields For Needed Wool Research

Nineteen fields in which additional information is needed to advance man's understanding of the chemical and physical properties of the wool fiber, and to improve the performance of woolen and worsted products, are listed in a publication just released by the Wool Bureau. In the 1951 supplement to the publication, *Suggested Research and Development Studies for the Woolen and Worsted Industry*, Giles E. Hopkins, the bureau's technical director, carries forward his earlier analysis of technical problems confronting the industry and suggests specific projects which might contribute to their solution. The booklet also contains notes on current research in this country, and comments on associated work abroad as observed by the writer during a recent trip to Great Britain and the Continent.

General fields in which Mr. Hopkins suggests additional studies include chemical modification of the wool fiber, physiological reactions to clothing, mechanisms of wool degradation, and the influence of fabric geometry. Work now in progress at the Quartermaster laboratories on protective clothing or apparel designed for special activities, suggests a wide field for new research into the development of sports and industrial clothing, the booklet points out.

In noting progress in the understanding of wool's physical structure, Mr. Hopkins points to the discovery of a membrane outside the scales of the wool fiber which has been shown by the use of an electron microscope. This membrane contributes to felting properties, friction and dyeing properties. He also cites the need for simplification of those newly developed scientific tests which are being shown as

most significant to the processing or performance so that they may be applied in routine selection and control in the mills.

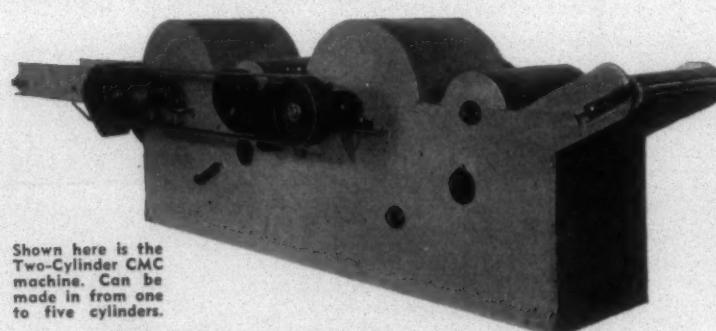
In discussing "Alteration of Wool Fiber Characteristics," the writer declares: "There is need for closer co-ordination between the engineers and technologists who understand mill and performance problems and the scientists who are adding to the basic understanding of the fiber itself. When, through such team work, possible applications are recognized, they should be investigated for development into mill processes."

Copies of the publication are being distributed to the wool textile industry and the press, and are available upon request to the Wool Bureau, Inc., 16 West 46th Street, New York 19, N. Y.

Booklet On Electrical Finishing Equipment

Electrical equipment for textile finishing is described in a new 32-page booklet available from Westinghouse Electric Corp. From the electrical standpoint, some of the most challenging jobs in the textile industry are the drives that power the large continuous finishing ranges. This new booklet contains information on many drives of this type that have been installed and are operating in various mills.

The booklet describes basic factors in selecting drives for continuous ranges. It tells how the Westinghouse adjustable-voltage drive controls tension—even more important in dyeing ranges than in bleaching ranges, since tension affects not only the strength of the finished cloth but the color as well. In addition to continuous finishing ranges, the booklet describes the latest type drives for semi-continuous batch processes, as well as other miscellaneous equipment for textile finishing applications. Another section discusses drives for printing ranges, where the basic requirement is good tension control—accurate so that good print register is maintained, and adjustable to enable the machine to handle different types of cloth. For a copy of this booklet, B-4034, write Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.



Shown here is the Two-Cylinder CMC machine. Can be made in from one to five cylinders.

CMC waste machine

A demonstration will convince you that the CMC Waste Machine is the best you can buy.

This is the machine which, for the first time, eliminated fire hazards by doing away with suction fans and waste pits. It also greatly reduced fiber damage by preventing blowback by means of controlled air pressure.

The CMC is easily installed . . . requires no dust pipes. It is compact . . . all parts are easily accessible . . . and it can be quickly adjusted to process different length staples and synthetic waste.

We will gladly process samples of your waste and return them for your inspection.

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for all Types of Pin Lagging including Waste Machine, Shoddy Picker, Carding Beater

CAROLINA MACHINERY CO., INC.

Morris Field
Charlotte, N. C.

Group Surveys Decade Of Cotton Textiles

The cotton textile industry in 1950 produced 11,169,276,000 square yards of woven cloth, a figure exceeded only in the war years of 1941 to 1943, and in so doing fulfilled the requirements for the Korean War and countered inflationary trends by supplying a full quota of civilian materials. W. Ray Bell, president of The Association of Cotton Textile Merchants of New York, declared last month in the association's 20th annual "Ten Years of Cotton Textiles" survey.

In the first quarter of 1951 even higher rates of cotton goods were attained, and rates of cotton consumption in this period were exceeded only in a few monthly periods in all of World War II, the report stated. It foresaw a third quarter this year of perhaps greater than seasonal production declines, but forecast a substantial improvement in volume of cotton textile business in the latter part of the year.

That such high rates of production can be prolonged seems unlikely, Mr. Bell commented. A "needless strike" in some mill areas has taken its toll of production. Scarce buying by the public at the beginning of this year has given way to a digestive period following earlier inventory accumulation in channels of distribution. Of even greater influence on long term operations of the mills, however, have been the "uncertainties and confusion" resulting from government controls.

Beginning with the general price freeze Jan. 26, cotton textile markets have suffered from inequities, and the high

production of the last four months has been possible due only to the heavy backlog of unfilled orders at the beginning of that period. The accident of delivery in a narrow base period produced substantial roll-backs under G.C.P.R. The situation has been relieved only partially by the later Ceiling Price Regulation 37, which was described as possesses identical defects in continuing ceilings on an individually calculated basis and in cutting across existing contracts.

The Office of Price Stabilization, Mr. Bell stated, has been placing contracts on the books in constant jeopardy. Efforts to preserve contractual validity have been unavailing, although in certain other industries existing contracts have been granted exemption. Even in the major cost item of raw cotton which was frozen on March 5 at the highest levels reached in the ten spot markets, existing contracts at higher levels were not annulled.

"Apparently the government price authorities are fully aware," he continued, "of the time-honored respect given in textile markets to the principle of contract sanctity, but their recognition up to date shows only in the 'statement of considerations' and not in the text of regulations." Under such conditions, "the customary practice of negotiating long term sales for future delivery has been seriously handicapped" and the resulting confusion has extended beyond the primary markets and through converting, apparel manufacturing and distribution.

While the transition from the current cotton season with its extremely short supply of fiber and record high prices since 1866, to a new season beginning with the harvest

TEN YEARS OF COTTON TEXTILES

Data assembled by The Association of Cotton Textile Merchants of New York from Bureau of the Census reports and information obtained through the courtesy of machinery manufacturers. Cloth production for 1941 is WPB estimate of June 29, 1942 which is the basis used for calculating subsequent years, through 1946. Cloth production for 1947 and later is based on 1947 census and quarterly reports of "Facts for Industry" series.

	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
EQUIPMENT											
COTTON SYSTEM SPINDLES											
Spindles in place at beginning of year	24,504,490	24,157,306	23,757,844	23,342,922	23,105,942	23,787,000*	23,928,000*	23,727,000*	23,751,000*	23,341,000*	23,149,000*
Increase or decrease from preceding year	435,714	347,184	399,462	414,922	236,980	681,058	141,000	201,000	24,000	410,000	192,000
New installation, additions and replacements	449,848	210,456	7,752	82,736	323,688	323,056	416,555	607,358	858,623	649,780	
OPERATION											
CONSUMING COTTON ONLY											
Spindles active at any time during year ending July 31st	23,389,454	23,607,508	23,429,252	23,018,828	22,674,851	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Average number of active spindles based on twelve monthly reports	22,955,205	23,051,400	22,744,106	22,332,080	22,018,529	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Average number of spindles active on last working day of month	N.A.	N.A.	N.A.	N.A.	N.A.	21,475,000	21,588,000	21,391,000	20,063,000	20,449,000	
CONSUMING OTHER THAN COTTON OR BLENDS											
Average number of spindles active on last working day of month	N.A.	N.A.	N.A.	N.A.	N.A.	1,172,000	1,198,000	1,337,000	1,174,000	1,295,000	
ALL COTTON SYSTEM OPERATION											
Spindles idle during year ending July 31st	1,115,036	549,798	328,592	324,094	431,090	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Average number of spindles idle on last working day of month	N.A.	N.A.	N.A.	N.A.	N.A.	1,212,000	1,066,000	1,050,000	2,334,000	1,372,000	
Spindle hours run:											
On 100% cotton	121,968,582,000	133,536,052,000	125,413,063,000	114,984,489,000	107,354,187,000	109,474,292,000	116,040,000,000	115,846,000,000	97,874,000,000	117,979,000,000	
On other fibers, blends	N.A.	N.A.	N.A.	N.A.	N.A.	5,875,000,000	6,346,000,000	7,432,000,000	5,816,000,000	7,458,000,000	
Hours run per average active spindle	5,313	5,793	5,514	5,149	4,876	5,094	5,371	5,424	4,882	5,769	
MARKET											
COTTON TEXTILES											
Production in square yards	11,327,903,000	12,204,611,000	11,569,224,000	10,572,421,000	9,779,238,000	10,171,225,000	11,008,383,000	10,863,129,000	9,391,578,000	11,169,276,000	
Exports in square yards	586,739,000	447,850,000	538,502,000	628,675,000	673,601,000	774,945,000	1,480,025,000	938,796,000	875,393,000	559,297,000	
Imports in square yards	61,311,000	17,664,000	19,693,000	11,216,000	80,029,000	43,758,000	15,962,000	31,749,000	19,743,000	47,588,000	
Available for domestic consumption	10,802,375,000	11,774,425,000	11,050,417,000	9,954,962,000	9,185,666,000	9,440,038,000	9,619,320,000	9,956,082,000	8,535,928,000	10,657,567,000	
Population at July 1st	133,377,000	134,831,000	136,719,000	138,390,000	139,934,000	141,398,000	144,129,000	146,621,000	149,149,000	151,689,000	
Available for per capita consumption in square yards	80.99	87.32	80.82	71.93	65.64	66.76	66.74	67.90	57.25	70.26	

* Includes cotton system spindles on other fibers.

N.A.—Not available.

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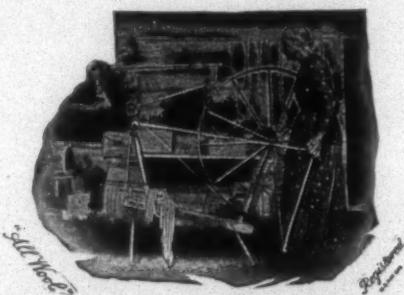
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of the 1951 crop, is contributing to slower current market conditions, longer term prospects for cotton goods are favorable, provided excessive government meddling is avoided.

Among important market influences will be the resumption of military buying of cotton textiles beginning with the new fiscal year in July. Should such purchasing parallel defense preparation a decade ago when efforts were directed to the supply of an approximately equal number of men, then the forces could absorb from ten to 15 per cent of 1951 production at current rates, and more if the need warrants. Civilian markets will also be influenced by the greater availability of cotton from the new crop and the opportunities for aggressive promotion of the product to the 154,000,000 customers now comprising the nation and having the highest per capita income in American history. Current retail inventory liquidation together with the conservative pattern indicated for Summer-time mill operations also suggest a sound basis for Fall and Winter business.

The report showed 23,149,000 spindles in place Jan. 1, 1951, 192,000 fewer than at the beginning of 1950. A total of 649,780 new spindles were installed in mills during 1950, a new equipment rate which, excepting 1949, was the highest since 1937.

Comparative figures from the ten-year survey on cotton textile production, exports, imports, and per capita availability, follow:

	1948	1949	1950
(Thousands of square yards)			
Production	10,863,129	9,391,578	11,169,276
Exports	938,796	875,393	559,297
Imports	31,749	19,743	47,588
Available for domestic consumption	9,956,082	8,535,928	10,657,567
*Available per capita of population (sq. yds.)	67.90	57.23	70.26

* Based July 1 population: 1948, 146,621,000; 1949, 149,149,000; 1950, 151,689,000.

Offer Information On Weaving Of Duck

An article containing information on weaving duck on Draper looms, titled "Peace Time Looms May Become War Time Looms," is featured in the June issue of *Cotton Chats*, house organ of the Draper Corp., Hopedale, Mass.

The article states, in part: "Ducks are hard for the average mill to weave and call for the greatest changes on the usual run of looms. While shelter tent duck has been made successfully on Model E looms, efficiency and speed will be less and the quantity of repair parts needed will be greater than on a loom properly designed for this fabric."

"The Armed Services need a vast amount of shelter tent duck. Certain mechanisms should be on the looms before

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you undertake the weaving of duck: Roll and shaft harness motion (cam on cam shaft with positive pull down parts); drag rolls and heavy lay; Midget feeler and Stafford thread cutter; nutting bar take-up (advisable but not essential). With a smaller bobbin and small section shuttle, change to 8 $\frac{3}{4}$ -inch bobbin with shuttle for larger package. Use a beam head as large as the loom will take. Your looms must be in good condition with all worn parts replaced, especially in the take-up and let-off."

Carded Yarn Weekly Production Declines

Weekly production rate of the carded cotton sales yarn industry at the beginning of June was down 17 per cent from the 1951 peak reached in mid-March, the Textile Information Service reports. Statistics of the Carded Yarn Association covering reports from approximately 1.4 million member spindles, show that spinners' operating hours and production have declined steadily during April and May. During these two months sales had fallen off sharply, first, mill men say, because of O.P.S. delay in issuing a pricing formula and then because of the time needed to calculate ceiling prices under the new pricing order, C.P.R. 37, after it was issued.

The carded sales yarn industry advisory committee has informed O.P.S. officials in Washington that the base period set by C.P.R. 37 reflects the least profitable period for their industry in the last ten years. Under this order, industry members stated, they will be manufacturing many important products at no profit or at a loss, and unless relief, or a new regulation tailored to their needs, is given, it will be necessary to curtail production.

Latest association statistics reveal that unfilled orders on spinners' books as of June 2 amounted to 13.78 weeks' production at the present weekly rate. This compares with a backlog on April 28 amounting to 15.93 weeks' output at the then prevailing rate. Total yarn in stocks, including yarn made for future deliveries against unfilled orders, amounted to 92.5 per cent of a week's production on June 2; inventories on April 28 were equal to 48 per cent of a single week's output. Production in the week ended June 2 consisted of 30.3 per cent knitting yarn, 60.2 per cent weaving yarn, and 9.5 per cent all others. In the week of April 28, the production percentages were 28.5, 61.2, and 10.3 respectively.

Cotton Spindle Activity Hits Faster Pace

The Census Bureau reported June 22 that the cotton spinning industry operated during May at 144.1 per cent of capacity on a two-shift 80-hour week basis. This compared

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with 136.4 per cent during April this year, and 128.1 per cent during May last year.

Spinning spindles in place June 2 totaled 23,133,000, of which 20,516,000 were active consuming cotton on the last working day of the month, compared with 23,127,000 and 19,903,000 for April this year, and 23,101,000 and 20,229,000 in May a year ago. Active spindle hours for spindles consuming cotton for May totaled 9,768,000,000 compared with 11,699,000,000 for April this year and 8,935,000,000 for May last year.

Spinning spindles in place June 2 included: In cotton growing states, 18,445,000, of which 16,604,000 were active, compared with 18,445,000 and 15,941,000 for April this year, and 18,210,000 and 16,349,050 a year ago, and in New England states 4,275,000 and 3,557,000 compared with 4,266,000 and 3,628,000 and 4,457,000 and 3,527,000.

Active spindle hours for spindles consuming cotton for May included: In cotton growing states 8,297,000,000 compared with 9,841,000,000 in April this year and 7,576,000,000 a year ago, and in New England states 1,363,000,000 and 1,741,000, and 1,265,000,000.

Cotton in cultivation on the nation's farms on July 1 has been estimated at 29,510,000 acres by the Agriculture Department. This compares with 18,613,000 a year ago for the short 1950 crop. The department made no forecast for production, but at last year's average yield to the acre, the crop would be about 16,520,000 bales of 500 pounds gross weight. Such a crop would compare with a government production goal of at least 16 million bales, and with last year's 10,012,000 bales, which was the fourth smallest in the last 25 years.

A sharp increase in production was sought this year to prevent an acute shortage. In order to protect domestic users, the government has imposed rigid limitations on exports. The department's first official estimate on production will be released Aug. 8. This year's acreage compares with 27,719,000 in cultivation July 1, 1949, and with a ten-year July 1 average of 21,859,000.

Weaving was so important to Great Britain that Edward III in about 1350 ordered the lord chancellor to "sit on a woolsack" as a reminder, a custom which prevails to this day.

SOUTHERN SOURCES OF SUPPLY for Equipment, Parts, Material, Service

Following are the addresses of Southern plants, warehouses, offices, and representatives of manufacturers of textile equipment and supplies who advertise regularly in TEXTILE BULLETIN. We realize that operating executives are frequently in urgent need of information, service, equipment, parts and materials, and believe this guide will prove of real value to our subscribers.

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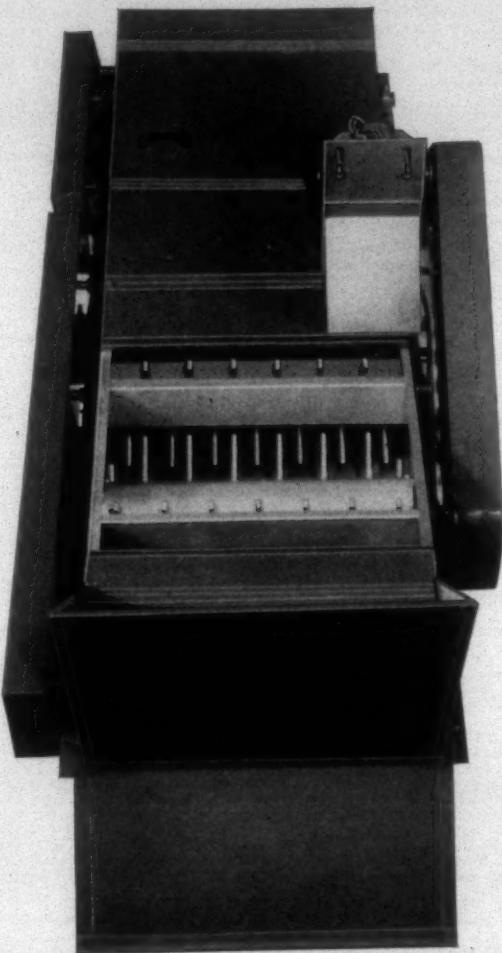


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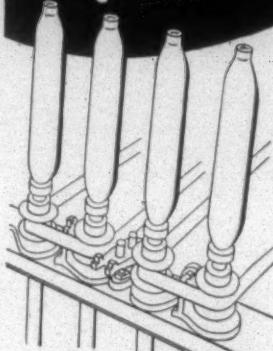
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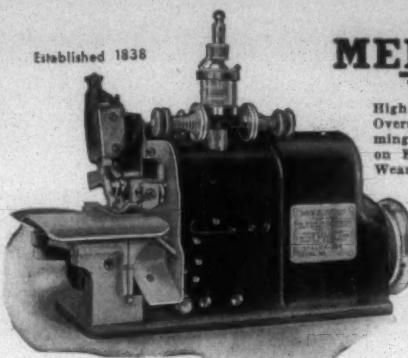
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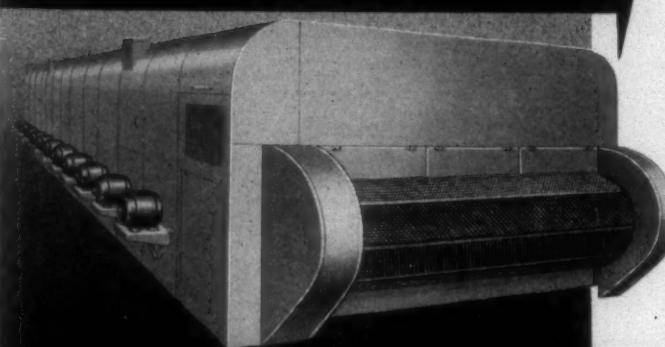
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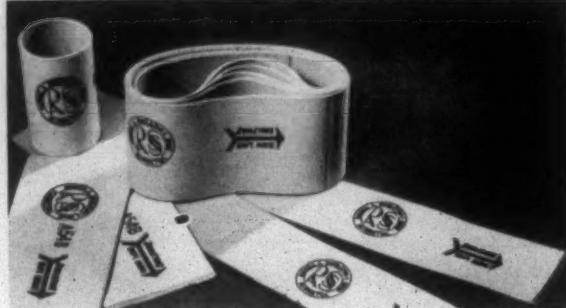
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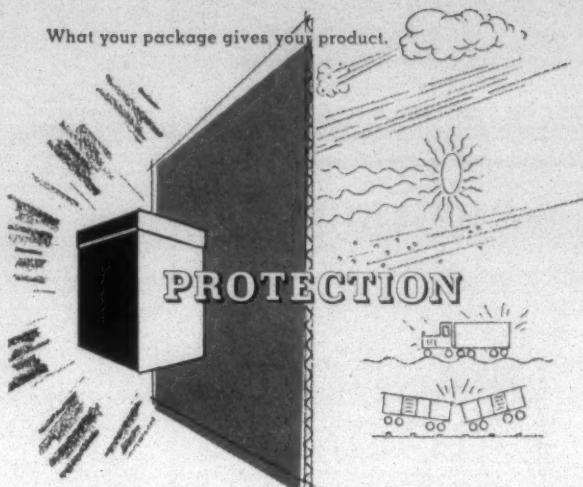
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Before Closing Down

- TEXTILE INDUSTRY HAPPENINGS AS THE MONTH ENDED -

PERSONALS



Raymond A. Pingree has been appointed vice-president and technical director of Crown Chemical Corp., Providence, R. I. He was recently chemical director of Warwick Chemical Co., division of Sun Chemical Corp. Mr.

Pingree graduated from Pratt Institute in 1923 and spent the following six years with the Sayles Finishing Plants, Inc., as chemist. The next eight years, he spent with the U. S. Finishing Co. as research chemist in charge of chemical manufacture. From 1938 to 1940, he served as research chemist in the technical laboratory of E. I. du Pont de Nemours & Co., Inc. For the past 11 years, he has been with the Warwick Chemical Co.

Frank R. Kuhn, Jr., secretary-treasurer and manager of Williams Printing Co., Spartanburg, S. C., has been elected president of Printing Industry of the Carolinas. Mr. Kuhn's firm serves a number of textile firms with their printing needs.

Robert Train, formerly comptroller, has been named head of the cotton office at Bibb Mfg. Co., Macon, Ga., succeeding the late Fred G. Barnes. . . . Hugh M. Comer has been appointed comptroller succeeding Mr. Train. . . . Mr. Train will be assisted by Roscoe Reynolds, who was transferred from Columbus, Ga., to Macon, and by George Lumpkin.

Wilson W. Aultman, formerly general superintendent of Sellers Mfg. Co., Saxapahaw, N. C., has joined Shuford Mills, Inc., in a technical capacity with headquarters at Hickory, N. C.

Blaine A. Dellinger of Carlton Yarn Mills, Inc., Cherryville, N. C., recently was installed as president of the Cherryville Rotary Club.

Walter A. Qualman, Jr., formerly superintendent of S. Stroock & Co., Inc., Newburgh, N. Y., is now superintendent of Hardwick Mills, Cleveland, Tenn. Mr. Qualman was succeeded at Newburgh by John T. Drennen.

S. C. Veney and James L. Eskridge have joined the supervisory staff of Stonecutter Mills Corp. at Spindale, N. C. Mr. Veney, formerly manager of the Southern division of Duplan Corp., has been made superintendent of gray goods manufacturing at Stonecutter and Mr. Eskridge, who was director of technical services for Burlington Mills Corp., has been added to the staff to serve in over-all management of the firm. John E. Bell, for the past 15 years director of manufacturing control for the Carter

has joined Stonecutter Mills Corp. as assistant to the president, Ivy Cowan. N. C., as assistant to the president, Ivy

John A. Staples, formerly group manager of the spun rayon mills of Burlington Mills Corp. in the Gastonia, N. C., area, has joined Parkdale Mills, Inc., of Gastonia, as assistant treasurer.

R. A. DeSanto, technical director of filament throwing, and Frank Matthews, head of the yarn procurement department at Burlington Mills Corp., Greensboro, N. C., last month completed 20 years of service with the company and were awarded service pins.

Howard Grant, group office manager of the terminal, and decorative fabrics and tricot divisions, completed 15 years with the firm last month. . . . Administrative changes in a number of Bur-Mil filament plants has resulted in the naming of six men to new posts as superintendents and assistant superintendents: Arnold Sanders, formerly superintendent at the High Point, N. C., weaving plant transfers to the Plaid Plant at Burlington, N. C., as superintendent, replacing Willard Swiggett who has left the company; Willard Burrow, formerly assistant superintendent at the Radford, Va., weaving plant assumes a similar position at the Bristol, Va., weaving plant; Frank Barnes, formerly assistant superintendent at Bristol, is transferred in a similar position to the rayon plant at Lexington, N. C.; Roy Bobo, formerly assistant superintendent at Lexington, becomes assistant superintendent at the High Point plant; and Robert Wood, formerly superintendent of the Reidsville, N. C., throwing plant becomes assistant superintendent at Radford.



Nobles L. Killebrew has joined the Southern sales force of Borne, Scrymser Co. to handle the sales of the firm's line of oils and chemical specialties to textile mills in Virginia and the upper half of North Carolina. A 1950 textile graduate from North Carolina State College, Mr. Killebrew previously was associated with American Yarn & Processing Co. at Mt. Holly, N. C. He will make his headquarters and home at Raleigh, N. C. W. E. Smith of Charlotte is Borne, Scrymser's Southern manager.

R. M. Mauldin, sales representative in Virginia and northern and western North Carolina for Universal Winding Co., suffered a stroke this month at his home in Charlotte, N. C. He is reported to be making a satisfactory recovery at Presbyterian Hospital, Charlotte.

W. R. Kulow has been named assistant divisional sales manager, phosphates divi-

sion of the Westvaco Chemical Division, Food Machinery and Chemical Corp., with headquarters at New York City. Mr. Kulow was, until recently, associated with the textile chemical department of Monsanto Chemical Co. and prior to that was a member of the New York sales division of Stauffer Chemical Co. Simultaneously, Westvaco announces the appointment of H. D. Robinson as assistant divisional sales manager, Alkali Division, also with headquarters at New York. Mr. Robinson was formerly assistant manager, chemical sales division, Chas. Pfizer and Co., Inc., Brooklyn, N. Y., and previously with the New York sales division of Dow Chemical Co.

G. M. Taylor is now assistant superintendent of the Ware Shoals (S. C.) Division of Reigel Textile Corp., replacing C. G. Bishop, resigned. John Stutts, formerly overseer of carding at the Jonesville (S. C.) Mills unit of J. P. Stevens & Co., is now overseer of carding at Ware Shoals.

W. H. Miller, operations co-ordinator at Sonoco Products Co., Hartsville, S. C., has been named assistant to the president, James L. Coker.

OBITUARIES

Carlos L. Faulkner, a former superintendent of Mandeville Mills, Carrollton, Ga., died July 9 at his home in Atlanta, Ga. Surviving are five sons, three daughters and a sister.

Arthur M. Kerr, 57, president of Broadnax (Va.) Mills, Inc., died July 13 of a heart attack. Mr. Kerr was en route by automobile from Broadnax to his home in Montclair, N. J., when stricken. He also was a director of Reeves Bros., Inc., and an officer of James H. Kerr & Sons, Philadelphia. Surviving are his wife, a daughter and a son, two sisters and a brother.

Frank T. Ward, 88, of Raleigh, N. C., a former official for many years with Melrose Knitting Mills and Raleigh Cotton Mills, died recently. Three sons and two daughters survive.

M. Clayton Webb, 56, operator of a textile mill in Cedartown, Ga., for the past two years, died July 5. His wife, a daughter and a son survive.

MILL NEWS

ALEXANDER CITY, ALA. — Despite the confusing developments resulting from the Korean conflict, and the controls which followed, the fiscal year which ended June 30 was a successful one from the standpoint of hours worked and wages paid out to employees. President Thomas D. Russell of Russell Mfg. Co. said recently in his annual report to employees. The textile company

BEFORE CLOSING DOWN

president said that taking the average of the past 12 months into consideration "we have worked more hours and paid out more money in wages than in any other year in our history with the exception of the boom year, 1948." Despite uncertainties still facing the industry, he told the mill employees that there are hopeful signs for the future. "We have every reason to believe that our customers will start forward buying within the very near future," the president of the 49-year-old company said. "All buying has been practically dead since price ceilings were put into effect in January. Merchants' shelves which were overstocked with goods are now beginning to empty. Over the whole country employment is at the highest peak ever. The mobilization program, after floundering about a year, is now beginning to get in high gear. Looking at the whole picture from the proper perspective, I cannot see how severe recession in business can take place in the foreseeable future."

ANDERSON, S. C.—Operations at the new Fiberglas yarn plant got under way July 9 division of the Sun Chemical Corp. Plant operations are beginning while much of the building remains to be completed. The remaining 24 furnaces will be placed in operation as construction of the building progresses.

WOODLAWN, N. C.—Excavation work is now under way here at the site of the new plant to be erected by American Thread Co. The moving of about 400,000 cubic yards of dirt is being undertaken prior to laying foundations for the company's two initial buildings, each of which will be about 200 by 500 feet.

SAXAPAHAW, N. C.—Sellars Dyeing Co., Inc., with authorized capitalization of \$275,000, has been chartered to deal in all types of fabrics and materials. Incorporators are Claiborne Young, Kenneth Young and Eugene Gordon, all of Burlington, N. C.

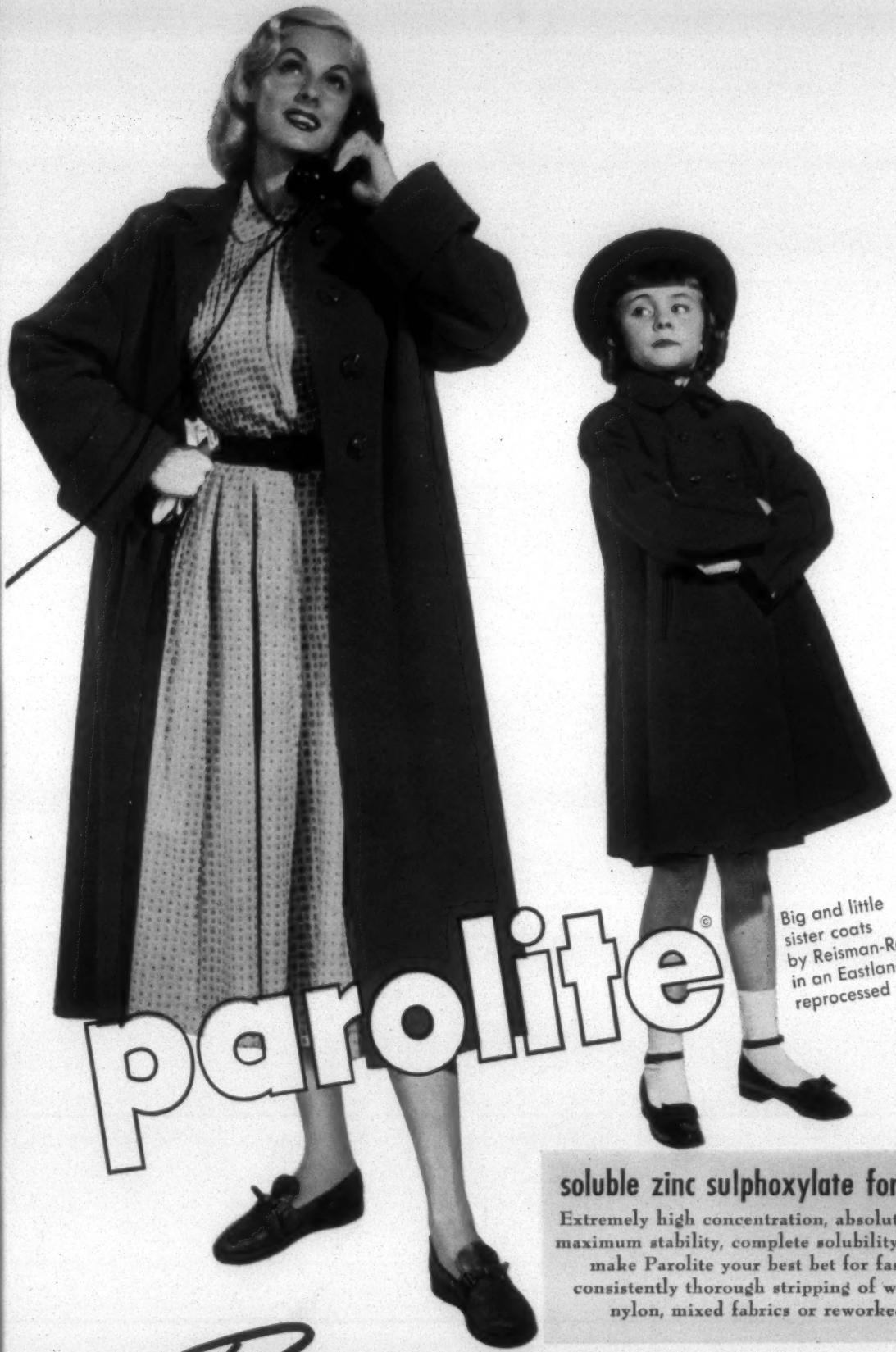
HUNTSVILLE, ALA.—The National Production Authority has approved construction of a \$10,829,000 rayon plant here by Courtaulds, Inc., the American affiliate of Courtaulds, Ltd., British rayon producer.

RALEIGH, N. C.—The Premier Worsted Mill plant, idle for the last three months, has been sold to American Woolen Co. American Woolen purchased the real estate from Fyans and List Corp. of Fall River, Mass., which bought it for resale after the Premier plant was shut down. The mill's machinery is being sold to other firms by Fyans and List. The plant contains approximately 100,000 square feet, and American Woolen now owns 20 acres of the surrounding property.

RUSSELLVILLE, ALA.—Southern Properties, Inc., of New York City, has purchased a building formerly owned by Russellville Mills, Inc., which will be turned over to a textile concern controlled by M. M. Clairmont of New York City and which, in turn, plans to go into production of sheetings early next year. Southern Properties plans a remodeling and modernization project costing about \$125,000. The old Russellville Mills produced broadcloth and prints.

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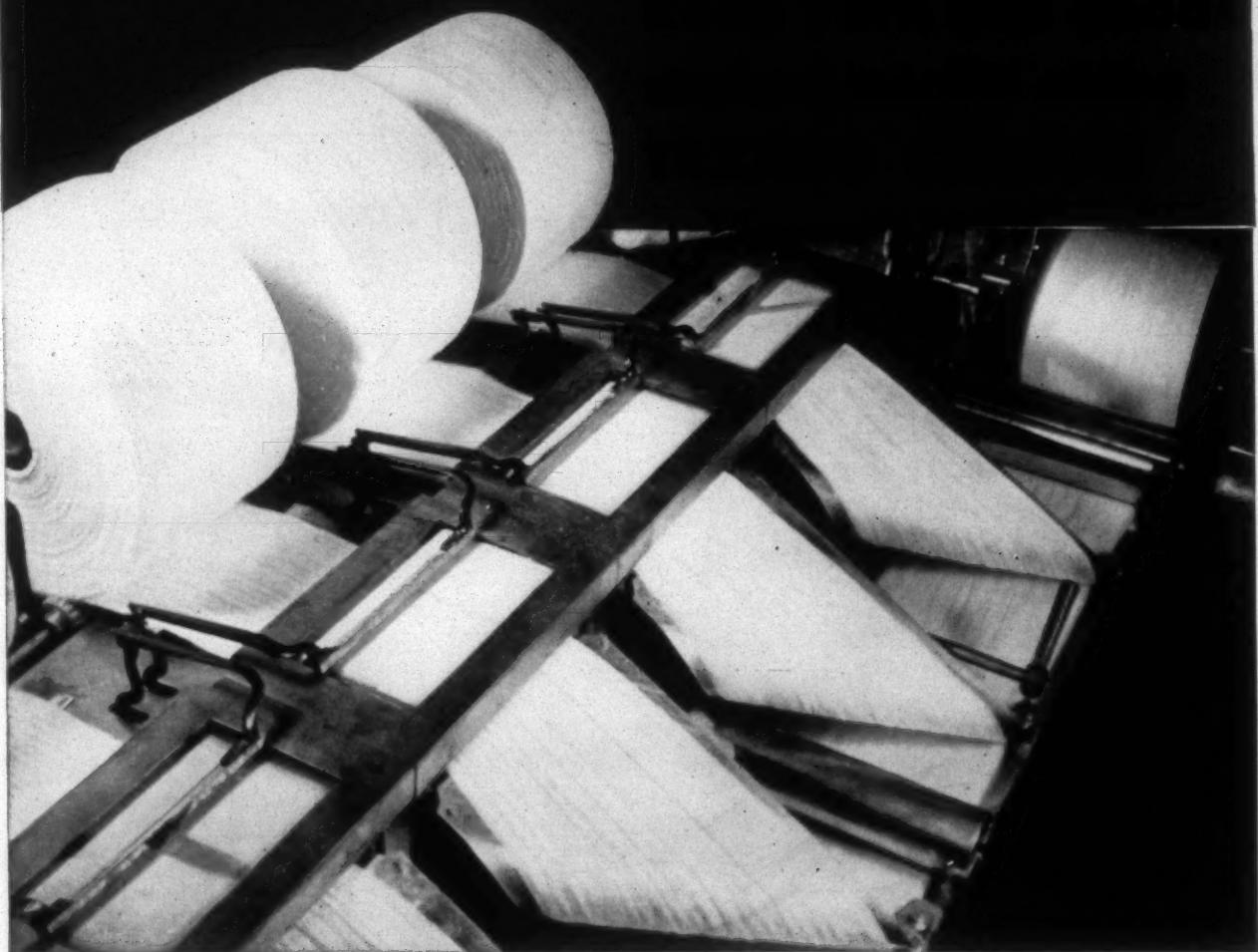
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